

AD-A258 203



AFIT/GCM/LSM/92S-5

DTIC
ELECTE
DEC 17 1992
S c D

EXAMINATION OF PSYCHOLOGICAL TYPE AND
PREFERRED NEGOTIATION TACTICS AND
STRATEGIES OF CONTRACT NEGOTIATORS

THESIS

John P. Hebert, B.S.
Captain, USAF

Alan J. Meade, B.S.
GS-12

AFIT/GCM/LSM/92S-5

Approved for public release; distribution unlimited

92-31547
■■■■■■■■■■

17SP8

92 12 16 027

The opinions and conclusions in this paper are those of the authors and are not intended to represent the official position of the DOD, USAF, or any other government agency.

DTIC QUALITY INSPECTED 1

| | |
|--------------------|--|
| Accession For | |
| NTIS CRISI | <input checked="checked" type="checkbox"/> |
| DTIC TAB | <input type="checkbox"/> |
| Unannounced | <input type="checkbox"/> |
| Justification | |
| By | |
| Distribution/ | |
| Availability Codes | |
| Dist | Avail and/or Special |
| A-1 | |

AFIT/GCM/LSM/92S-5

**EXAMINATION OF PSYCHOLOGICAL TYPE AND PREFERRED NEGOTIATION
TACTICS AND STRATEGIES OF CONTRACT NEGOTIATORS**

THESIS

**Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Contract Management**

**John P. Hebert, B.S.
Captain, USAF**

**Alan J. Meade, B.S.
GS-12**

September 1992

Approved for public release; distribution unlimited

Acknowledgments

No study of this size can be begun, much less completed, without the guidance, wisdom, and counsel of mentors, of which we were fortunate to have three. To Dr. William C. Pursch we owe our gratitude for his knowledge and understanding of the National Contract Management Association (NCMA) , and for his input into this research. To Major T. Scott Graham, Ph.D., thank you for your guidance, and the friendly ear when it was most needed. And last but certainly not least, to Dr. Dennis E. Campbell, who was the instigator of this research, and in his own inimitable way, challenged us to learn and perform beyond our wildest expectations, with the result being true knowledge, understanding, and valuable research results, we give a resounding thank you. To Dr. Ben Williams, we owe a statistically significant ($p > .001$) thank you for the time you invested in our statistics education, and for your help when we most needed it. Yea, verily. To Major Bob Pappas, we owe a debt of friendship. You're more than just a teacher, you're a friend. Thanks for your discerning eye and advice. To Captains Dave Petrillo and Ron Ortiz, thanks for the comic relief, you made an unbearable task fun.

To ignore the two most important influences in our life during this research period would be the greatest injustice. To our families, Jane and Buddy, and Dottie, Kelley, Evette, and Mallory, we owe our sanity and undying gratitude for your love, support, and understanding during one of the most difficult times in our lives. We owe you more than you can ever imagine.

Finally, this thesis is dedicated to the memory of John P. Hebert, Sr.,
24 March 1935 - 13 April 1992. Dad, you would have been proud of us.

John Hebert

Alan Meade

Table of Contents

| | Page |
|--|------|
| Acknowledgments | ii |
| List of Figures | vii |
| List of Tables | viii |
| Abstract | x |
| I. Introduction | 1 |
| General Issue | 1 |
| Problem Statement | 4 |
| Research Objective | 4 |
| Research Questions | 5 |
| Assumptions | 7 |
| Limitations | 8 |
| Summary | 8 |
| II. Literature Review | 9 |
| Overview | 9 |
| Negotiation Tactics and Strategies | 9 |
| Importance of Negotiation Tactics and Strategies | 10 |
| Discussion of Negotiation Tactics and Strategies | 11 |
| Preferred Negotiation Tactics and Strategies | 14 |
| Psychological Types | 16 |
| Jung's Theory of Psychological Types | 16 |
| Personality Type Theory | 17 |
| Perception | 18 |
| Judgment | 19 |
| Combinations of Perception and Judgment | 19 |
| Orientation | 20 |
| Judgment-Perception Preference | 21 |
| Creation of "Type" | 22 |
| The Role of the Dominant Process | 22 |
| The Auxiliary Process | 23 |

| | Page |
|--|------|
| The Myers-Briggs Type Indicator | 24 |
| The Relationship of Personality Type and Preferred Negotiation Tactics and Strategies | 26 |
| Summary | 27 |
| III. Methodology | 29 |
| Population | 29 |
| Data Collection Plan | 29 |
| Survey Instrument | 30 |
| Tentative Analytical Plan | 31 |
| Summary | 33 |
| IV. Results and Analysis | 34 |
| Demographic Analysis | 34 |
| Demographic Summary | 36 |
| Research Questions | 36 |
| Research Question One | 39 |
| Research Question Two | 40 |
| Research Question Three | 48 |
| Research Question Four | 54 |
| Research Question Five | 58 |
| Summary | 67 |
| V. Conclusions | 70 |
| Research Objective Conclusions | 70 |
| Research Question One Conclusions | 71 |
| Research Question Two Conclusions | 73 |
| Descriptive Analysis Conclusions | 73 |
| Statistical Analysis Conclusions | 75 |
| Research Question Three Conclusions | 75 |
| Research Question Four Conclusions | 77 |
| Descriptive Analysis Conclusions | 77 |
| Statistical Analysis Conclusions | 78 |
| Research Question Five Conclusions | 79 |
| Summary of Research Questions Conclusions | 82 |
| Summary of Research Objective Conclusions | 83 |
| VI. Recommendations | 87 |

| | Page |
|---|------|
| Overview | 87 |
| The Contracting Profession | 87 |
| National Contract Management Association | 87 |
| Government Contracting Organizations | 88 |
| Industry Contracting Organizations | 89 |
| Association for Psychological Type or Center for Applications of Psychological Type | 89 |
| Recommendations for Future Research | 90 |
| Summary | 90 |
| Appendix A: Definition of Negotiation Tactics and Strategies Used in this Research | 91 |
| Appendix B: Myers-Briggs Type Table | 95 |
| Appendix C: Questionnaire on Negotiation Tactics and Strategies .. | 96 |
| Appendix D: Survey Reminder Postcard | 110 |
| Appendix E: Paired Z-Test Results Comparing Dichotomous Pairs of MBTI Functional Types | 111 |
| Appendix F: Frequency Distribution for Survey Responses | 117 |
| Appendix G: Paired Z-Test Comparing Individual MBTI Personality Types to the Survey Sample | 130 |
| Appendix H: Paired Z-Test Comparing Government Contract Negotiators to Industry Contract Negotiators Within MBTI Functional Type Grouping | 142 |
| Appendix I: Chi-Squared Analysis for Industry Contract Negotiations MBTI Personality Type Frequency Distribution Using SRI VALS Databank as Expected Frequency | 154 |
| Appendix J: Chi-Squared Analysis for Government Contract Negotiations MBTI Personality Type Frequency Distribution Using SRI VALS Databank as Expected Frequency | 155 |

| | Page |
|---|------|
| Appendix K: Chi-Squared Analysis Comparing Government Contract Negotiators MBTI Personality Type Frequency Distribution to Industry Contract Negotiators Using Industry Contract Negotiators MBTI Personality Type Frequency Distribution as Expected Frequency | 156 |
| Bibliography | 157 |
| Vitae | 159 |

List of Figures

| Figure | | Page |
|--------|---|------|
| 1. | Formula Used For Computing Maximum Sample Size | 30 |
| 2. | Paired Z-Test Statistic Used to Determine Statistically Significant Differences Between Two Data Samples | 33 |
| 3. | Chi-Squared (χ^2) Analysis Comparing the Survey Sample to the Database from the SRI International Values and Lifestyle Program Survey | 44 |
| 4. | Chi-Squared (χ^2) Analysis Comparing the Personality Type Distribution of Government Contract Negotiators to that of Industry Contract Negotiators | 48 |

List of Tables

| Table | Page |
|---|------|
| 1. Personal Demographics Frequency Distribution by Employer | 37 |
| 2. Professional Demographics Frequency Distribution by Employer | 38 |
| 3. Negotiation Tactics Most Frequently Used by Contract Negotiators . . . | 39 |
| 4. Negotiation Tactics Least Frequently Used by Contract Negotiators . . . | 40 |
| 5. Use of Identified Contract Negotiation Strategies by Contract Negotiators | 41 |
| 6. Distribution of Personality Types of Contract Negotiators As Measured by the Myers-Briggs Type Indicator (MBTI) | 42 |
| 7. Distribution of Personality Types of Government and Industry Contract Negotiators as Measured by the MBTI | 45 |
| 8. Chi-Squared (χ^2) Analysis Comparing Government Contract Negotiators MBTI Frequency Observed and Expected Distributions Using SRI International Values and Lifestyle Program (VALS) as the Expected Frequency Estimate | 46 |
| 9. Chi-Squared (χ^2) Analysis Comparing Industry Contract Negotiators MBTI Frequency Observed and Expected Distributions Using SRI International Values and Lifestyle Program (VALS) as the Expected Frequency Estimate | 47 |
| 10. Summary of Significant Differences Between Extraversion and Introversion Type Groupings | 50 |
| 11. Summary of Significant Differences Between Sensing and Intuitive Type Groupings | 52 |
| 12. Summary of Significant Differences Between Thinking and Feeling Type Groupings | 53 |
| 13. Summary of Significant Differences Between Judging and Perceiving Type Groupings | 54 |
| 14. A Comparison of Mean Scores of Negotiation Tactics Most Frequently Used by Government and Industry Contract Negotiators | 55 |

| | Page |
|--|------|
| 15. A Comparison of Mean Scores of Negotiation Strategies Used by Government and Industry Contract Negotiators | 57 |
| 16. Significant Differences in Tactics and Strategies Used by Government and Industry Contract Negotiators | 59 |
| 17. Comparison of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Extravert Type Grouping | 60 |
| 18. Comparison of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Introvert Type Grouping | 62 |
| 19. Comparison of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Sensing Type Grouping | 63 |
| 20. Summary of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Intuitive Type Grouping | 64 |
| 21. Comparison of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Thinking Type Grouping | 65 |
| 22. Comparison of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Feeling Type Grouping | 67 |
| 23. Comparison of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Judging Type Grouping | 68 |
| 24. Comparison of Significant Differences in Negotiation Tactics and Strategies Between Government and Industry Contract Negotiators Within the Perceiving Type Grouping | 69 |
| 25. Summary of Differences Between Government and Industry Contract Negotiators in Negotiation Tactics as Related to Personality Type . . . | 84 |
| 26. Summary of Differences Between Government and Industry Contract Negotiators in Negotiation Strategies as Related to Personality Type . . | 85 |

Abstract

This research identified the psychological types of government and private industry contract negotiators and determined whether their preference for using negotiation tactics and strategies were correlated with their respective psychological types. A survey consisting of the Myers-Briggs Type Indicator (MBTI) and a questionnaire concerning use of common negotiation tactics and strategies was mailed to 2,000 contracting professionals of the National Contract Management Association (NCMA). During May and June 1992, 627 usable surveys were received. The MBTI results were paired with the responses to the negotiation tactics and strategies questionnaire. These results were analyzed on a microcomputer using the Dbase IV, Excel, and Statistix software packages to conduct mean, standard deviation, median, chi-square, and comparison of means with test of hypothesis (Z-test). Analysis of the data concludes that industry negotiators use tactics and strategies more frequently than government negotiators. Statistically significant differences were noted between industry and government negotiators on 20 out of 33 tactics and five out of eleven strategies. Statistically significant differences were also noted between personality functional type groupings and industry and government negotiators. The largest number of differences in this area were noted in the Introversion, Sensing, Thinking, and Perception groups.

EXAMINATION OF PSYCHOLOGICAL TYPE AND
PREFERRED NEGOTIATION TACTICS AND STRATEGIES
OF CONTRACT NEGOTIATORS

I. Introduction

General Issue

The negotiation of contracts awarded by the United States Government is an area ripe with mis-perceptions on the part of the American public as to the quality and qualifications of government procurement officials. Federal negotiators are viewed by the public as being at a competitive disadvantage to their contractor counterparts because, if for no other reason, of a lack of experience and training. Indeed, one study indicates that federal contract negotiators are not as well educated or as well trained in the procurement field as their industry counterparts (Mavroules & Welch,1991). A 1986 study by Peterson reported that 34% of Air Force Logistics Command (AFLC) contract negotiators did not possess a bachelor's degree (Peterson,1986:30). Catlin and Faenza reported in their 1985 study that 10% of the contract negotiators in the Air Force Systems Command (AFSC - the organization charged with the responsibility for development and acquisition of major weapon systems for the Air Force) did not have a bachelor's degree (Catlin & Faenza, 1985:38). Catlin & Faenza also reported that 69% of the AFSC negotiators had attended a workshop in negotiations, although the length and content of the workshop(s) were not defined (Catlin & Faenza, 1985:39).

Formal education and training aside, it is difficult for the government to attract professionals with the required educational and experiential qualifications because of the ability of civilian firms to pay salaries with which the government cannot compete. This was confirmed by the findings of the Packard Commission in 1986:

The defense acquisition workforce mingles civilian and military expertise in numerous disciplines for management and staffing of the world's largest procurement organization. Each year billions of dollars are spent more or less efficiently, based on the competence and experience of these personnel. Yet compared to its industry counterparts, this workforce is undertrained, underpaid, and inexperienced. Whatever changes may be made, it is vitally important to enhance the quality of the defense acquisition workforce -- both by attracting qualified new personnel and by improving the training and motivation of current personnel.

- Packard Commission Report
(Cheney, 1989:27)

One means by which government negotiators might level the playing field with their better-trained and more experienced industry counterparts, is by the understanding and proper utilization of contract negotiation tactics and strategies. A *negotiation tactic*, for the purposes of this research, is defined as *any specific action, word, or gesture designed to achieve both an immediate objective (such as countering an action by the other negotiating party), and the ultimate objective of a particular strategy*. A *negotiation strategy*, on the other hand, is defined as *an organized plan or approach to negotiations from an overall perspective which may be comprised of one or more negotiation tactic* (Catlin & Faenza, 1985:7).

The use of negotiation strategies and negotiation tactics is the focus of many books and research studies on the subject of negotiation (Karrass; Nierenberg; Woolf; Fisher, Ury & Patton; Cross). For the most part, the authors all agree that the effective

and proper use of negotiation strategies and tactics is vital to gain a satisfactory outcome from the negotiation. In one study, however, Horton concluded that Air Force negotiators in particular do not place much emphasis on negotiation strategies and tactics, considering them to be less than effective in negotiating with contractors (Horton, 1987:98). This lack of emphasis on the use of strategies and tactics conflicts with conventional wisdom, and is worth investigating because of the billions of taxpayer dollars spent by the federal government. The Horton study contradicts the conclusion reached by Catlin & Faenza, which found that Air Force Systems Command Negotiators were more likely to use a particular strategy and/or tactic (Catlin & Faenza, 1985: 89-90). While the Horton study placed little value on the use of strategy or tactics by government negotiators, other researchers found a high degree of agreement among contract negotiators in the Air Force Systems Command (Catlin & Faenza), and Air Force Logistics Command (Peterson), respectively as to the positive value of using a particular strategy and associated tactics (Catlin & Faenza; Peterson).

One concern of recent research efforts has focused on personality type and the preference of contracting professionals for particular negotiation tactics and/or strategies. Major Charan Johnstone (1986) studied the relationship of psychological type as measured by the Myers-Briggs Type Indicator (MBTI) to preferred negotiation strategies and tactics of Air Force negotiators. The MBTI is a self-reported survey instrument that indicates a person's preferences, and is a validated, widely-accepted instrument for psychological testing. While Johnstone was not able to correlate the two variables, she did offer the possibility that the lack of win-win choices on the survey questionnaire might have led to the lack of correlation. She also identified the phenomena that the contracting career field was not representative of the general population relating to personality type, and the preponderance of a certain personality type might lead to the

lack of correlation between type and preferred strategies and tactics (Johnstone, 1986:118).

Determining psychological type for both government and industry negotiators, and the relationship to negotiation tactics and strategies may offer the government the capability of identifying desirous traits for recruiting and training contract negotiators. Results of this study also may lead to better understanding by both parties as to the methods of each participant in government-industry negotiations.

Problem Statement

The significant problem is that the information available to researchers today is inconclusive as to the level of use by contract negotiators of negotiation tactics and strategies. Also, while there have been numerous studies addressing government negotiators, there has been little research that has investigated contract negotiators in the private sector. There has also been little or no research done comparing the tactics and strategies used by government and industry negotiators. Finally, there has been only one study comparing personality type to negotiation tactics and strategies, and that study was inconclusive. Therefore, this research is intended to fill the gaps of knowledge in the contracting profession, and investigate the use of tactics and strategies by both government and industry negotiators, compare the two populations to one another, and determine if a relationship exists between use of particular negotiation tactics or strategies.

Research Objective

The purpose of this research is to determine

A) what negotiation tactics and strategies are used, and how often;

- B) the relationship between government contract negotiators and industry negotiators in terms of what tactics and strategies are used by each group, and how often;
- C) if government contract negotiators, as a population, differ from their industry counterparts in terms of psychological composition; and
- D) the relationship, if one exists, between psychological type and the level of use of certain negotiation tactics and/or strategies for both government and industry negotiators.

Research Questions

The research objective will be addressed via the following research questions, which are derived from Johnstone's previous study. While the researchers realize that strategies and tactics are separate issues, in the interest of brevity they are combined for the purposes of analyzing the research information:

1. What negotiation tactics and strategies are most frequently used by contract negotiators?
2. Is there a difference in negotiation tactics and strategies used by government and industry negotiators?

Ho: There is no statistically significant difference between government and industry contract negotiators.

Ha: There is a statistically significant difference between government and industry contract negotiators.

3. What is the personality type composition of contract negotiators?

Ho: There is no statistically significant difference in psychological type between contract negotiators and the general population.

Ha: There is a statistically significant difference in psychological type between contract negotiators and the general population.

4. Is there a negotiation tactic or strategy that relates to a particular personality type among contract negotiators?

Ho: There is no tactic or strategy that relates statistically to a particular personality type among contract negotiators.

Ha: There is one or more tactic or strategy that relates statistically to a particular personality type among contract negotiators.

5. Is there a difference in negotiation tactics or strategies relating to personality type between government and industry negotiators?

Ho: There is no statistically significant difference between government and industry contract negotiators.

Ha: There is a statistically significant difference between government and industry contract negotiators.

These questions will be answered by conducting a survey of a random sample of the over 23,500 members of the National Contract Management Association (NCMA). The NCMA membership is composed of both government and industry contracting professionals from throughout the United States. The survey consists of two elements : 1) the Myers-Briggs Type Indicator (MBTI), used to determine psychological profiles of the sample participants, and a questionnaire designed to gather information on negotiation strategy and tactics and certain demographic data. The results of the survey will be statistically analyzed to determine 1) what negotiation tactics and/or strategies are used by contract professionals, 2) the personality types of contract negotiators, and 3) if relationships exist between personality type and negotiation strategies and tactics, as well as between government and industry negotiators.

Assumptions

The questionnaire used to identify negotiation strategies and tactics was assumed to be valid. Various forms of this survey have been used and validated by previous researchers in determining preference for a particular negotiation tactic and/or strategy.

It is assumed that respondents answered truthfully to the questions of the questionnaire. Statistical probability will account for any "randomness" in the event a respondent provides false or misleading answers. The Central Limit Theorem states that:

If a random sample of n observations is taken from a population (any population), then, when n is sufficiently large, the sampling distribution of (\bar{x}) will be approximately a normal distribution.

The larger the sample size, n , the better will be the approximation to the sampling distribution of (\bar{x}) . (McClave & Benson:289)

The MBTI was assumed to provide accurate self-reported data. The validity of this questionnaire has been established by previous studies in the social sciences areas.

Limitations

One limitation of this research is that it may not be possible to generalize from the sample frame to the general population of contract negotiators as a whole. Because the sample frame is that of the membership of the National Contract Management Association (NCMA), one cannot state that all contract negotiators are represented by members of the NCMA. The researchers will refer to the sample population as contract negotiators, but it should be understood that the sample population is actually contract negotiators who are members of the NCMA, which is not all-inclusive of contract negotiators as an identifiable segment.

Summary

This chapter has provided a general discussion of the research problem, background on the issue, and presented the research questions that will be answered to provide the data necessary to fulfill the research objective. Chapter 2 will present a discussion of the relevant research.

II. Literature Review

Overview

This chapter presents a review of current literature on the topics of negotiation tactics and strategies, and personality type. The first section will first introduce and discuss the topic of negotiation tactics and strategies. The next section will discuss the theory of psychological type which was developed by the noted psychologist Carl G. Jung in the early 1900's. Additional discussion will center on the operationalization of Jung's theory by another team of noted psychologists, Katherine Briggs and Isabel Briggs Myers. After psychological types have been discussed, a section discussing previous research that combined certain aspects of both negotiation tactics and strategies along with psychological types will be presented. The chapter concludes with a summary of the relevant literature presented.

Negotiation Tactics and Strategies

To establish a common ground of understanding, the following definitions are presented.

Tactic (Technique) is any specific action, words or gestures designed to achieve both an immediate objective (such as countering an action by the other negotiating party) and the ultimate objective of a particular strategy. (Catlin and Faenza, 1985:99)

Strategy is an organized plan or approach to negotiations from an overall perspective which may be comprised of one or more than one tactic. (Catlin and Faenza, 1985:99)

A ***Win/Lose negotiation*** outcome takes place when one side does significantly better than the other side and "wins," while the party that does poorly "loses." The win/lose outcome is characterized in the framework where one side must lose in order for the other side to win.

This type of negotiation tends to be highly competitive with a large degree of mistrust on both sides. (Liebhaber, 1990: 1-2)

A ***Lose/Lose negotiation*** outcome takes place when both sides deadlock. A permanent impasse occurs when neither side will budge and final agreement cannot be obtained. Both parties had a stake in a successful outcome of the bargaining session or else they would not have been negotiating in the first place. Consequently, both sides usually suffer a considerable loss when deadlock occurs. (Liebhaber, 1990:1-3)

A ***Win/Win negotiation*** outcome takes place when both sides win and achieve long term satisfaction. Each side has a vested interest in satisfying the long term goals of the other side. Short term advantage achieved by wringing out every last concession is not as important as securing a good, long lasting business relationship. (Liebhaber, 1990:1-3)

While the terms tactic and strategy have their own separate definitions, in reality it is difficult to distinguish whether a certain action is a tactic or part of a strategy (Nierenberg 1986:154).

Importance of Negotiation Tactics and Strategies. The one common theme that is prevalent in all the literature concerning negotiation is the importance of tactics and strategies in negotiations. As a result, each formal writing usually contains a minimum of one and many times several chapters on the topic of negotiation tactics and strategies. For example, Chester L. Karrass devotes an entire book, entitled *Give and Take*, to the detailed explanation of the use and importance of two hundred negotiation tactics and strategies (See Appendix A for a list and definitions of negotiation tactics and strategies used in this research). Karrass also stresses the importance of both offensive and defensive strategies in successful negotiations (Karrass, 1974).

George Fuller, author of *The Negotiators Handbook*, had this to say about the importance of negotiation tactics and strategies:

Negotiators use a number of different approaches to achieve their goals. Knowing how to both use and cope with these strategies is essential for success at the bargaining table. Of course, proper preparation is the starting point, and achieving your negotiation objective is the ultimate destination. However, the tools for getting there consist of the strategies employed at the bargaining table. And while the wrong strategy can hamper your progress, using the right tactics can speed things along to a successful outcome. (Fuller, 1991:86)

Another example of an author stressing the point that the use of tactics and strategies is vital in negotiations is provided by a quote from *Negotiating To Win*, by Peter Economy.

Tactics and strategies are an integral part of the long history of negotiation. Whether you choose to use certain techniques or not, you should, at the very least, be familiar with the more prevalent ones. This way you will be prepared to counter their use and better defend your positions. When you negotiate for a living, you need to have every possible tool at your disposal to use in your transactions. (Economy, 1991:179)

Discussion of Negotiation Tactics and Strategies. While it is apparent that the preponderance of the literature emphasizes the importance of using negotiation tactics and strategies, most authors identify and display a list of tactics and strategies without much guidance on when or how to effectively use strategies (Karrass, Economy, Woolf and others). One reason for this appears to be the complex and varied nature of each negotiation (Fuller, 1991: v). As noted by Steele, Murphy, and Russill,

No general rules can be laid down about tactics. Each negotiation must be considered separately before you decide which tactics are appropriate. It is equally essential to consider the *personalities* and approaches of the other party or parties to the negotiation. A particular tactic will work better on some people than on others. The same tactics will also work differently on the same person in different circumstances or at different times. (Steele, Murphy & Russill, 1989:94)

In spite of the complexity of each negotiation, Gerard I. Nierenberg offers a theory on the effective use of negotiation tactics and strategies in his book *The Complete Negotiator*. Nierenberg quite simply calls the two main components of his theory "When" strategy and "How and Where" strategy (Nierenberg, 1986:155).

"When" strategy essentially involves a proper sense of timing. It is easier to use in a negotiation when a new element enters the picture rather than when all elements are static. But properly applied, it can change a static situation into a dynamic one. "How and Where" strategy involves the method of application and the area of application. Often it is advantageous to use two or more strategic approaches in the same negotiation. The more familiar you become with various strategic techniques, the better the chance of success in negotiating. (Nierenberg, 1986:155)

The "When" and "How and Where" strategies presented by Nierenberg represent the traditional views of the use of 'Win-Lose' negotiation tactics and strategies that were prevalent in the nineteen sixties through the mid nineteen eighties. Additional discussion of 'Win-Lose' tactics and strategies will be noted in the final section of this chapter.

The concept of the Win/Win strategy appears to be the negotiating strategy of the late nineteen eighties through the present time. Prior to the mid eighties, many negotiations were adversarial contests that ended in either a win/lose outcome or in some cases, lose/lose situations for both parties (Ballou, 1991:4). Dr. Paul Ballou notes the following about these relationships,

A win/lose approach to government contract negotiations has developed over the last several years between industry and government contract negotiators. Certain power negotiation techniques that have come into wide use have resulted in delays, damaged relationships, and unwise agreements. Competitive negotiators are using such techniques as deliberate deception, abusive physical environment, and psychological warfare to maximize their position at the expense of a long-term relationship.

A better way to conduct government contract negotiation is to integrate the needs of both parties so as to maintain a long-term relationship. The win/win approach to negotiations is built on such

concepts as both industry and government negotiators beginning by communicating their interests, needs and objectives; understanding the other's point of view; disregarding the idea of winning; and gaining a sense of mutual satisfaction with the results. Cooperative negotiation techniques such as patience, persistence, and assertive communication can facilitate problem solving and mutual trust between the parties. (Ballou, 1991:4)

Drs. Ross Reck and Brian Long, in their book, *The Win-Win Negotiator*, elaborate in great detail on the concept and process of the win/win negotiation strategy that was noted in Dr. Ballou's article. Reck and Long set the stage for the Win/Win strategy by stating that "the first thing you have to realize about negotiating is that it is not a game. The problem with games is that while they produce winners, they also produce losers" (Reck and Long, 1987:11).

An analysis of the 'Win-Win' philosophy is a topic for another discussion. However, it is important that the reader be familiar with the process of 'Win-Win' negotiating, in order to completely understand the dynamics of a complex process. The 'Win-Win' negotiation process focuses attention on a solution to the 'problem', with the problem identified as whatever issue is at hand. Emphasis is placed on planning, establishing long-term, trusting relationships with your negotiation 'partner', coming to an agreement that is fair and equitable to both parties, and finally recognizing that the negotiation does not end when both parties leave the negotiation table, but must be maintained and nurtured (Reck & Long, 1987;25-79). The authors conclude their book by stating that

the biggest mistake most negotiators make is that they approach each negotiation as if it were a singular event instead of a continuous process. For whatever the reason, these people believe that a negotiation starts when they make eye contact with the person they are going to negotiate with and ends when they shake hands after they've reached an agreement. Most negotiators concentrate the bulk of their efforts on the Agreement Formation step of the process and spend relatively little effort on the

Planning, Relationship Development, and Maintenance steps. Most people don't realize there are four necessary steps to the negotiation process. As a result, they can't realize that each prior step in the process must be done properly if the next step is to have a chance of being successful. Furthermore, since they don't understand that the negotiation process is continuous, they don't realize that their conduct after the agreement is reached determines the level of performance they receive and lays the groundwork for the planning step the next time around. (Reck and Long, 1987:86)

Preferred Negotiation Tactics and Strategies. Catlin and Faenza identified from a list of given alternatives the five most preferred negotiation strategies and the top ten tactics favored by 278 U.S. Air Force contract negotiators at four separate Air Force Systems Command (AFSC) buying divisions (Catlin and Faenza, 1985:vii). Due to the exploratory nature of their research, Catlin and Faenza could not explain why the respondents answered the way they did. Catlin & Faenza's definitions of negotiation tactics and strategies reflect those of the literature surveyed (Catlin and Faenza, 1985:7). The U.S. Air Force negotiators from AFSC selected the following strategies, in rank order of preference, from a possible ten choices:

1. *Bottom line* -- Negotiating on a total cost or price basis versus an item-by-item basis.
2. *Statistics* -- Using learning curves, trend analysis, or historical records as the primary support for the negotiation position.
3. *Participation or involvement* -- Designing the team composition to narrow or broaden the areas of negotiation, such as the use of experts.
4. *Combination or the big pot* -- Introducing many issues at one time, using "throw-away" points to get major concessions.
5. *Step-by-step* -- Presenting a series of acceptable minor points to obtain a major concession; also used to counter the bottom line offer. (Catlin and Faenza, 1985:46)

These same negotiators identified their top ten preferences for negotiation tactics from 33 possible choices as: *Ask for lots of data, Belabor fair and reasonable, Split the difference offers, Allow face-saving exits, Off-the-record discussion, Call frequent*

caucuses, Low-ball offers, Refer to your side's generosity, Escalate to opponent's boss, Escalate to your boss (Catlin and Faenza, 1985:41).

In 1986, a second study on negotiation tactics and strategies was conducted by Peterson. Peterson's research was a direct follow on effort to the research performed by Catlin and Faenza the year before. The difference between the two research studies was that instead of surveying AFSC contract negotiators as Catlin and Faenza had, Peterson surveyed Air Force Logistics Command (AFLC) contract negotiators. The ninety-two responses from the AFLC contract negotiators were similar to their AFSC counterparts and showed a preference for the following negotiation strategies in rank order as:

Statistics, Participation, Step-by-step, Bottom line, and Combination (Peterson, 1986:43).

Peterson asked the participants to rank order their five most preferred negotiation tactics from the list of 33 possible choices. The same AFLC contract negotiators identified their preference for the top five negotiation tactics as follows: ask for lots of data, belabor fair and reasonable, split the difference offers, refer to your side's generosity, and allow face-saving exits (Peterson, 1986:68).

Both the Catlin, Faenza and the Peterson studies clearly conclude that contract negotiations between government and DOD contractors are competitive (Catlin and Faenza, 1985:81; Peterson, 1986:68). As is characteristically the case in win-lose conflict, the government negotiators' perceptions of their opponents were negative:

Moreover, from the Air Force perspective, it is the contractor who uses antagonistic negotiating tactics, while the Air Force team is business-like, even-handed, and fair and reasonable. One can only speculate that defense contractor representatives may have a different view of both themselves and their Air Force Systems Command negotiating counterparts. (Catlin and Faenza, 1985:81)

Psychological Types

Jung's Theory of Psychological Types. In 1923, the noted psychologist Carl G. Jung published the book *Psychological Types*. Within this publication, Jung detailed his theory of personality types which states that "much seemingly chance variation in human behavior is not due to chance, but is in fact the logical result of a few basic, observable differences in mental functioning" (Myers and Myers, 1980:1).

These basic differences in mental functioning noted by Myers and Myers are the ways people perceive and make judgments (Myers and Myers, 1980:1). Jung suggested that perceiving and judging are processes which occupy the vast majority of an individual's mental energies (Campbell, 1971). Myers and Myers also noted that

Perceiving is understood to include the processes of becoming aware of things, people, occurrences, and ideas. Judging includes the processes of coming to conclusions about what has been perceived. Together, perception and judgment, which make up a large portion of people's total mental activity, govern much of their outer behavior, because perception - by definition - determines what people see in a situation and their judgment determines what they decide to do about it. Thus, it is reasonable that basic differences in perception or judgment should result in corresponding differences in behavior. (Myers and Myers, 1980:1-2)

Jung contends that individuals perceive by performing some mental function which is characterized as being along a scale with sensing being at one end and intuiting being at the opposite end. In the same way, individuals tend toward either feeling or thinking when making judgments (Campbell, 1971:178-269). The cognitive functions of sensing, intuiting, thinking, and feeling will be discussed in greater detail later in this chapter.

The combination of a perceptive process (either sensing or intuiting) and a judgment process (thinking or feeling) results in a specific pattern of behavior which can be classified into four distinct psychological types. These psychological types are

increased twofold when Jung suggests that one's interests are either subject oriented (introversion), or object oriented (extraversion) (Campbell, 1971:178). All together, Jung suggests that there are eight distinct psychological types which are based on the way individuals perceive and judge the world, and whether their orientation when doing so is introverted or extraverted (Campbell 1971:178-269). Both introverted and extraverted types include Thinking, Feeling, Sensing, and Intuition.

Personality Type Theory. Jung's theory was operationalized by two researchers, Katherine Briggs and her daughter Isabel Briggs Myers. Briggs and Myers, over the course of more than forty years of observation and research, extended and expanded Jung's writing on dominant and auxiliary functions to produce a systematic psychological type theory which integrated the primary and secondary functions.

The cornerstone of personality type theory, as expounded upon by Briggs and Myers, can be summed up in the first paragraph of Isabel and Peter Myers' book, *Gifts Differing*:

It is fashionable to say that the individual is unique. Each is the product of his or her own heredity and environment and, therefore, is different from everyone else. From a practical standpoint, however, the doctrine of uniqueness is not useful without an exhaustive case study of every person to be educated or counseled or understood. Yet we cannot safely assume that other people's minds work on the same principle as our own. All too often, others with whom we come in contact do not reason as we reason, or do not value the things we value, or are not interested in what interests us. Seemingly chance variation in human behavior is not due to chance; it is in fact the logical result of a few basic, observable differences in mental functioning. (Myers and Myers, 1980:1)

The differences in mental functioning, referred to above by Myers and Myers, relate to the way that individuals prefer to perceive and make judgments when they are given choices. Each function is characterized by a dichotomous scale on which each individual has a preference for choosing toward one end or the other when given a

chance to choose between the two diametrically opposed functions. While certain situations may dictate that one function be used over the other, when given a choice, individuals will show a propensity to exhibit behavior which consistently favors one end of the scale over the other end. In fact,

Each of us develops a preference early in life and sticks with it. And the more we practice those preferences--intentionally or unintentionally--the more we rely on them with confidence and strength. That doesn't mean we're incapable of using our non-preferences from time to time. In fact, the more we mature, the more our non-preferences add richness and dimension to our lives. However, they never take the place of our original preferences. So, Extraverts never become Introverts, and vice versa. (Kroeger and Thuesen, 1988:11)

The following sections will discuss the cognitive functions of perception and judgment, along with two other dichotomous attitudes which are the cornerstone of personality type theory as presented by Myers and Myers in their book, *Gifts Differing*.

Perception. Jung notes that people have two, diametrically opposed ways of perceiving. One way is through the five senses which provide a literal perception of the surrounding world. This perceiving process is referred to as *Sensing (S)*. The other method by which people can perceive their environment is via *Intuition (I)* (Myers & Myers, 1980:2). When people use the perceptive process of intuition, they make use of "indirect perception by way of the unconscious, incorporating ideas or associations that the unconscious tacks on to perceptions coming from outside" (Myers & Myers, 1980:2).

Sensors are characterized as liking to "focus on the facts and details" that are supplied to them by their five senses (Kroeger and Thuesen, 1988:24). They tend to like concrete facts. Intuitors tend to focus on "possibilities, meanings, and the relationships" of various things (Kroeger and Thuesen, 1988:24). Intuitors prefer more abstract view of their world (Kroeger and Thuesen, 1988:25). These two kinds of perception compete for a person's attention.

Whichever process they prefer, whether sensing or intuition, will be used more, paying closer attention to its stream of impressions and fashioning their idea of the world from what the process reveals. The other non preferred kind of perception will still be there, but in the background, and a little out of focus. (Myers and Myers, 1980:2)

Judgment. The two distinct processes of perception will yield differences in judgment. *Thinkers (T)* base their judgments on an impartial, impersonal and objective interpretation of their perceptions. Conversely, *Feelers (F)* make their judgments based on a partial, personal, and subjective interpretation of their perceptions (Myers & Myers, 1980:3). Kroeger and Thuesen noted that

When *Thinkers (T)* are confronted with a decision-making process, they prefer to be very logical, detached, analytical, and driven by objective values to reach their conclusions. For *Feelers (F)*, the decision-making process is driven by an interpersonal involvement that comes from subjective values. The impact of their decision on other people is very important to feelers. Feelers have a tendency to identify with and assume others' emotional pain. (Kroeger and Thuesen, 1988:28-29)

Combinations of Perception and Judgment. When these divergent methods of perceiving and judging are put into combinations, four different and distinct combinations are possible: sensing plus thinking (ST), sensing plus feeling (SF), intuition plus feeling (NF), and intuition plus thinking (NT). The following types are characterized by:

ST - practical and matter-of-fact; like impersonal analysis of concrete facts. (Myers and Myers, 1980:5)

SF - sociable and friendly; like situations where personal warmth can be applied effectively to the immediate situation. (Myers and Myers, 1980:6)

NF - personal warmth and commitment; enthusiastic and insightful; like situations where they can use creativity to meet a human need. (Myers and Myers, 1980:6)

NT - logical and ingenious; like solving problems in a field of special interest. (Myers and Myers, 1980:6)

Myers and Myers elaborate on these four possible combinations by stating that,

Each of these combinations produce a different kind of personality, characterized by the interests, values, needs, habits of mind, and surface traits that naturally result from the combination. Combinations with a common preference will share some qualities, but each combination has qualities all its own, arising from the interaction of the preferred way of looking at life and the preferred way of judging what is seen. (Myers and Myers, 1980:4)

The four cognitive sets detailed above are doubled to eight when they are combined with a third attitude preference, consisting of either internal or external orientation.

Orientation. Orientation, in the context of personality type, refers to the individuals relative interest in their outer and inner worlds. Introversion (I) is the preference "for the inner world of concepts and ideas" (Myers & Myers, 1980:7). Extraversion (E) is the "preference for the outer world of people and things. When circumstances permit, introverts concentrate their perception and judgment upon ideas, while extraverts like to focus them on the outside environment" (Myers and Myers, 1980:7).

Extraverts (E) obtain their energy from the outer world of people and things. They can be characterized by the following terms, as noted by Kroeger and Thuesen: "sociability, interaction, external, breadth, extension, multiple relationships, energy expenditure, external events, gregarious, and speak, then think"(Kroeger and Thuesen, 1988:32). Introverts (I), on the other hand, obtain their energy from internal thoughts and ideas. They can be characterized by an opposite set of terms: "territoriality,

concentration, internal, depth, intensive, limited relationships, energy conservation, internal reactions, reflective, think, then speak" (Kroeger and Thuesen, 1988:32). Simply put, extraverts "recharge" their mental batteries by being around people or external things. Introverts "recharge" by being alone where they can reflect upon their ideas and thoughts without interruptions.

It should be noted that individuals are not exclusively limited to either extraversion or introversion. Well-developed extraverts and introverts can both behave effectively in their own respective, less preferred worlds. However, when given the chance, both extraverts and introverts will revert back to their respective natural preferences (Myers and Myers, 1980:7-8).

With the addition of the extravert-introvert preference, the four cognitive sets in combinations of ST, SF, NF, and NT now become eight paired functions of psychological type. These eight paired functions relate to the eight psychological types detailed by Jung. Myers and Briggs expanded Jung's psychological type theory by adding an attitude preference which will again double the number of personality types to sixteen.

Judgment-Perception Preference. The last preference is the choice between the perceptive attitude and the judging attitude of individuals as they deal with everyday life. Judgment (J) and Perception (P) are both used by individuals, but never at the same moment (Myers and Myers, 1980:8). "There is a time to perceive and a time to judge, and many times when either attitude might be appropriate. Most people find one attitude more comfortable than the other, feel more at home in it, and use it as often as possible in dealing with the outer world" (Myers and Myers, 1980:8-9).

Judgers (J) like to have the environment around them to be "structured, ordered, planned, and controlled" ; they make their decisions with a "minimum of stress" and are very deliberate and decisive in their decision-making mode (Kroeger and Thuesen,

1988:38). Judgers also like to plan their work and will even plan their leisure time.

Perceivers (P), on the other hand, like to be "flexible, spontaneous, adaptive, and responsive to a variety of situations"; they incur anxiety over decision-making.

Perceivers prefer a more 'laid-back' approach to life (Kroegeer and Thuesen, 1988:38).

Creation of "Type". Myers and Briggs contend that people create their "type" when they exercise their individual preferences with relation to perception and judgment.

The interests, values, needs, and habits of mind that naturally result from any set of preferences tend to produce a recognizable set of traits and potentialities. Individuals can, therefore, be described in part by stating their four preferences, such as ENTP. Such a person can be expected to be different from others in ways characteristic of his or her type. To describe people as ENTPs does not infringe on their right to self-determination: they have already exercised this right by preferring E and N and T and P. (Myers and Myers, 1980:10)

With the introduction of the Judgment-Perception attitude, there are now sixteen personality types which have their own unique patterns of behavior and attitudes. Myers and Briggs realized that the sixteen personality types and their individual characteristics would not be easy for people to memorize. As a result, they created a Type Table so that all the type relationships could easily be compared to each other (Myers and Myers, 1980:27). See Appendix B for a representation of the Myers-Briggs Type Table.

The Role of the Dominant Process. Myers and Briggs contend that individuals need some governing force in their make-up concerning perception and judging. They contend that people need to develop and polish their best process so that it dominates and unifies their lives. In the overall scope of events, most people fall into this fold (Myers and Myers, 1980:10).

Jung also noted the phenomenon of the dominant process forming the personality and overpowering the other processes. This theory of the dominant process, along with the extraversion-introversion preference became the cornerstone of his book, *Psychological Types* (Myers and Myers, 1980:12).

The dominant process theory basically presents that each individual will have one of the cognitive functions, either perception or judging, as their dominant process. The theory can be taken one step further by stating that each individual will therefore have the possibility of having either sensing, intuiting, thinking, or feeling as a dominant process.

Determining which function is dominant is easier to see in extraverts than it is in introverts. Since extraverts prefer to deal with the outside world, what you see is what you get when it comes to determining the dominant process. Determining the dominant process is more complicated in introverts. With introverts,

The dominant process is habitually and stubbornly introverted; when their attention must turn to the outer world, they tend to use the auxiliary process. Most people see only the side introverts present to the outer world, which is mostly their auxiliary process, their second best.

The result is a paradox. Introverts whose dominant process is a judging process, either thinking or feeling, do not outwardly act like judging people. What shows on the outside is the perceptiveness of their auxiliary process, and they live their outer lives mainly in the perceptive attitude. The inner judgingness is not apparent until something comes up that is important to their inner worlds.

Similarly, introverts whose dominant process is perceptive, either sensing or intuition, do not outwardly behave like perceptive people. They show the judgingness of the auxiliary process and live their outer lives mainly in the judging attitude. (Myers and Myers, 1980:14)

Therefore, what you see with introverts is not necessarily what you get in all cases.

The Auxiliary Process. For people to be balanced in life, a single process alone is not adequate. They need to develop a complimentary cognitive process to act as

an auxiliary to the dominant process. "If a person has no useful development of an auxiliary process, the absence is likely to be obvious. An extreme perceptive with no judgment is all sail and no rudder. An extreme judging type with no perception is all form and no content," (Myers and Myers, 1980:12).

In addition to supplementing the dominant process, the auxiliary carries the main burden of providing adequate, but not equal, balance between the outer world of the extravert and the inner world of the introvert. The auxiliary process takes care of the extraverts inner world while the dominant process takes care of the outer world of people and things. In contrast, the auxiliary process takes care of the outer world of the introvert while the dominant process is preoccupied with the inner world of ideas. In either instance, a balance is required if the individual is to be successful in their inner and outer lives (Myers and Myers, 1980: 12-13).

The Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) was developed, over a period of twenty years, by Isabel Briggs Myers and Katherine Briggs to specifically carry Carl Jung's theory of psychological type into practical applications. The development of the MBTI survey culminates a lifetime of observation and research by Isabel Briggs Myers in the area of personality types (Lawrence, 1982:5). The main purpose of the MBTI is summarized by Isabel Briggs Myers and Mary McCauley in their publication, *Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator*.

The aim of the MBTI is to identify, from self-report of easily recognized reactions, the basic preferences of people in regard to perception and judgment, so that the effects of each preference, singly and in combination, can be established by research and put to practical use. (Myers and McCauley, 1985:1)

There are two reasons why the MBTI was chosen as a survey instrument in this research. The first reason involves the theory of personality type which proposes that an individual's attitudes and behaviors are identifiable by the way they judge and perceive the world. Since one's choice of a particular negotiation tactic or strategy is related to an individual's judgment and perception process, it may be reasonable to postulate a correlation between the choice of a particular negotiation tactic or strategy and one's personality type may exist. If such a correlation exists, the possible benefits could be significant. Considering the negotiation process alone, understanding the relationship of personality type and negotiation tactics and strategies may allow the process to more completely understood if we could predict, or at least understand, why the opposing negotiator is acting or behaving the way he or she is.

The other reason the MBTI was selected for use in this research is that it provides a survey instrument that has been fully tested, refined, and proven valid and reliable over time. Myers and McCaulley provide a history of the actual construction of the MBTI in their MBTI Manual (Myers and McCaulley, 1985:140-146). Their manual also explains that the MBTI's internal reliability, proven through the use of the split-half technique and test-retest correlations, is well established as an acceptable measurement for use in research (Myers and McCaulley, 1985:164-174). The validity of the MBTI has consistently been proven over many years by showing that: the MBTI scores correspond favorably to other survey instruments that measure Jungian constructs, behavior of the MBTI types is in concert with predicted MBTI type theory, and knowledge of type differences contributes to the understanding of other issues of psychological importance (Myers and McCaulley, 1985:175-223).

The Relationship of Personality Type and Preferred Negotiation Tactics and Strategies

After reviewing the available literature concerning the topics of personality types and negotiation tactics and strategies, only one publication was found that attempted to establish a link between the two topics. Johnstone conducted exploratory research to see if a correlation existed between contract negotiators preferences for negotiation tactics and strategies, and their personality types as reported by the MBTI (Johnstone, 1986:xi).

The Johnstone study surveyed 249 out of a possible 508 contracting officers and price analysts in the 1102 job series employed at the Aeronautical Systems Division (ASD) at Wright-Patterson Air Force Base, Ohio. The survey contained two parts, the MBTI and a nine page questionnaire concerning negotiation tactics and strategies. The negotiation questionnaire listed ten negotiation strategies which the respondents ranked by order of preference. Likewise, 33 negotiation tactics were presented whereby the respondent ranked their top five preferences along with listing the top five tactics used by their opponents (Johnstone, 1986:57-60).

Results of the survey were comprised of responses from ninety-nine participants of which 69 were male and 30 were female. The MBTI results were paired with the corresponding negotiation questionnaire responses and statistically analyzed for correlation. While the results of the statistical analysis failed to establish a correlation between preferred negotiation tactics and strategies and personality type, it did show that the sample's type distribution was statistically different from the type distribution in the general population. Johnstone noted a preponderance of ISTJ (38.4%), ESTJ (20.2%), and ENTJ (8.1%) in her sample population (Johnstone, 1986:xi-xii).

Johnstone attributes the lack of correlation between the negotiation tactics and strategies and personality types to the negotiation questionnaire which,

when reviewed in the light of the behavioral sciences' findings in the conflict literature, all belonged to the win-lose or competitive approach. By failing to offer a range of choices that would have allowed

expression of the differing preferences of the psychological types, the questionnaire limited the results to competitive solutions only. Even if sets of strategies, tactics, and perceptions as functions of psychological types had been identified, all would have belonged to the one negotiation approach of win-lose only. In this context, the relative preference for one win-lose strategy or tactic over another is meaningless because it offers no predictive power. Whatever the strategy or tactic, the approach would be win-lose. (Johnstone, 1986:118)

Johnstone also offered the possibility that the heavily regulated internal and external environments of the federal acquisition workforce may have influenced the way the respondents answered the survey (Johnstone, 1986:119).

Summary

This chapter reviewed the relevant literature on negotiation tactics and strategies, psychological type theory, and the Johnstone study which attempted to establish a correlation between the two topics.

The negotiation tactics and strategies section provided some relevant definitions to establish a common understanding of the terms used in this section. Next the importance of using negotiation tactics and strategies were discussed. Traditional views of using negotiation tactics and strategies along with the relatively new concept of the win-win strategy were covered. The last part of this section discussed two research studies which explored the area of preferences in selecting negotiation tactics and strategies.

The section on psychological types was started by presenting a discussion of Jung's theory of psychological types. The discussion progressed to the personality type theory which was an expansion of Jung's theory by the noted psychologists, Isabel Briggs Myers and Katherine Briggs. This section was concluded by a discussion of the MBTI and why it was selected for use in this research.

The last section of this chapter discussed the one known study that has attempted to establish a connection between the subjects of personality type and a preference for the selection of negotiation tactics and strategies.

Chapter III will describe the methodology for determining the population, sample size, sample group, selection and use of the survey instruments, and analyzing the data for responding to the various research questions.

III. Methodology

This section discusses the methodology used to accomplish the objectives of this research. To facilitate this discussion, separate paragraphs on the population, data collection plan, survey instrument, and a tentative analytical plan are presented.

Population

The population of interest for this study is the approximately 23,500 members of the National Contract Management Association (NCMA). The NCMA is a nationwide organization composed of members who are dedicated to the professionalization and advancement of the field of contract management. The mailing list to be used in this research was generated by a computer program that randomly selected 2,000 names from the master NCMA mailing list. At the present time, the NCMA master mailing list does not have the capability of being stratified into government or industry categories. By using the formula (Figure 1) outlined by HQ USAF/ACM in 1974 (Department of the Air Force:1974), a minimum sample size of 400 was determined to be required for this research, at the 95% confidence level.

Data Collection Plan

A mail survey was chosen to accomplish the objective of establishing an information base concerning personality types and preferred negotiation strategies and tactics. Data collected in this survey includes responses to the Myers-Briggs Type Indicator (MBTI) and a questionnaire on preferences for negotiation strategies and tactics based on a design by Catlin and Faenza (Catlin & Faenza:23-24). The questionnaire designed by Catlin and Faenza was modified slightly by the current research team (see

$$n = \frac{N(z^2) \times p(1-p)}{(N-1)(d^2) + (z^2) \times p(1-p)}$$

Where:

n = sample size
 N = population size
 p = maximum sample size factor
 d = desired tolerance
 z = factor of assurance

Figure 1. Formula Used for Computing Maximum Sample Size (Department of the Air Force, 1974)

discussion of the Survey Instrument below). To assist in collating responses, control numbers ranging from 0001 to 2000 were assigned to the two instruments prior to distribution. The names of the respondents were not requested, collected, or used. The surveys were distributed during April 1992 and returned during May and June 1992.

Survey Instrument

The survey instruments for this research consists of the Myers-Briggs Type Indicator (MBTI) and a questionnaire on preferred negotiation strategies and tactics originally designed by Catlin and Faenza (Catlin & Faenza:23-24) and subsequently modified by the current research team. The MBTI portion of the survey will consist of 95 questions used to score responses on the Form G survey instrument or equivalent, and is not included in the Appendices because of copyright considerations. The MBTI has been validated by previous studies in the social sciences as a valid tool for measurement of an individual's personality type, as delineated by C.G. Jung (Jung, 1971), and expounded upon by Isabel Briggs Myers (Briggs-Myers, 1985). Estimated time to complete this portion of the survey instrument is 20 minutes.

The portion of the survey investigating negotiation tactics and strategies consists of two parts (Appendix C). Part 1 contains eight demographic questions and Part 2 is divided into negotiation tactics and strategy sub-sections containing 33 and 11 questions, respectively. The respondent is asked to indicate how often a particular negotiation tactic and/or strategy is used. The survey instrument uses a Likert scale from 1 to 5, with 1 indicating that the respondent never uses the tactic/strategy, to 5, indicating the tactic/strategy is always used. Respondents will also be asked to rank their three most favored and three least favored negotiation tactics and strategies. The negotiation strategy and tactics portion of the survey was modified, refined, and validated through pretesting prior to surveying the target population. Estimated time to complete this portion of the survey is 15-25 minutes. A postcard (Appendix D) was mailed to the survey sample after the initial mailing in an attempt to stimulate a higher response rate, and to inform the sample that the results of the study would be distributed in the form of an executive summary to all individuals that responded to the survey.

Tentative Analytical Plan

The data were analyzed using standard statistical measures, and software hosted on a microcomputer. Borland's DBase IV database manager, Microsoft's Excel spreadsheet, and Analytical Software's Statistix were used for all statistical analyses.

The MBTI was optically scanned into a computer system, where the resulting raw data was analyzed and scored using a microcomputer-based MBTI analysis program written by the researchers, adapted from the Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator (Myers & McCaulley: 8-9). The MBTI analysis program reported the personality type of each individual that completed the survey, the

raw scores that the type is derived from, along with a record number used to collate the response with the negotiation portion of the survey.

The negotiation portion of the survey was also optically scanned into a mainframe computer system. The raw data was then analyzed using Dbase IV and Excel. Descriptive statistics were gathered on each question using a microcomputer-based statistics application, Statistix, version 3.5.

Various statistical measures were used to answer the research questions. Demographic results were arrived at using simple mean, standard deviation, and median scores. Research Question 1 was answered by ranking the mean scores of the negotiation tactics and strategies. Research Question 3 was answered by reporting the personality types of all of the survey respondents, grouped by type, and by major personality type-grouping (i.e. E, I, S, N, etc.). A comparison to the SRI International Values and Lifestyle Program Survey (VALS) database will be conducted using a standard chi-squared (χ^2) statistic to determine statistical differences. The SRI database was chosen over that of the Center for Applications of Psychological Type (CAPT) because the researchers felt that the inherent bias as a result of the populations of the respective databases was less in the SRI versus the CAPT database. A comparison of personality types and major sub-types for government to industry, and male to female contract negotiators was also to be reported. Research Questions 2, 4, and 5 were answered by a comparison of means, in a test of hypothesis (Z - test). The null hypothesis was that there is no difference between the mean score of each of the personality types, and the mean score of the population as a whole. The following statistic (Figure 2) was used for the testing of the hypotheses:

$$\frac{\mu_1 - \mu_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = z$$

Where:

μ_1 = mean of group 1
 μ_2 = mean of group 2
 s_1 = standard deviation of group 1
 s_2 = standard deviation of group 2
 n_1 = number of cases in group 1
 n_2 = number of cases in group 2
 z = z score

Figure 2. Paired Z-Test Statistic Used to Determine Statistically Significant Differences Between Two Data Samples

A z score greater than the corresponding table value for the respective level of confidence, or less than the negative table value, indicates that the null hypothesis is rejected, and that it is possible to accept the alternate hypothesis: that the personality type does differ from the rest of the population in its use of a particular negotiation strategy or tactic. For the purposes of this research, a 90% level of confidence was used as the minimum threshold for statistical significance, but the level of significance through .001 is reported. A two-tailed test was used because the hypotheses are being tested for differences, both positive and negative.

Summary

This chapter described the methodology to be used in collecting and analyzing the data required to determine the answers to the research questions, and ultimately, fulfill the research objective. The next chapter presents the results of the analyses.

IV. Results and Analysis

This chapter presents the analysis of the data in two parts: 1) demographics, and 2) answers to the specific research questions.

Demographic Analysis

A total of 2000 surveys were mailed to NCMA members in April 1992. Surveys were returned in May and June 1992. Of the original 2000 mailed, 737 were returned for a return rate of 36.85%. Of the surveys returned, 110 were unusable for reasons of incomplete surveys (47), incorrect addresses (18), or the individual did not negotiate contracts and had never been a contract negotiator (45). This left 627 usable surveys, or 31.35%. In all instances where the data are stratified by employer, the 39 respondents that answered 'Other' to the question regarding employer were excluded from analysis, and the sample size reduced to 588 instead of 627.

The demographics portion of the survey consisted of eight questions: Age, gender, ethnic origin, employer, total number of years in contracting, highest level of formal education attained, total number of hours of formal training in negotiations, and percentage of time spent conducting and managing contract negotiations.

Analysis of the age of the respondents shows that 19.9% (125) of the survey respondents are 35 years of age or younger, leaving 80.1% (502) of the population 36 years old or older .

Males represented 66.7% (418) of the survey respondents, compared with 33.3% (209) female . The ethnic makeup of the survey respondents was reported as 93.3% (585) Caucasian, 2.4% (15) Black, 2.2% (14) Hispanic, 0.5% (3) Oriental, and 1.6% (10) reporting Other . The survey showed that 56.9% (357) of the survey respondents were

employed in private industry, 34.3% (215) employed by the federal government, 1.6% (10) employed by state government, 1.0% (6) employed by local government, 6.2% (39) reported being employed by other than the aforementioned employers.

The majority (59.0%) of contract negotiators indicated that they possessed more than 10 years of contracting experience, with 22.5% (141) having 11 to 15 years of experience, 23.6% (148) having 16 to 25 years of experience, and 12.9% (81) having more than 25 years of experience. This left 41% with less than 10 years experience; 26.5% (166) having between 5 and 10 years of experience, and 14.5% (91) having less than 5 years of experience .

The education level of the survey respondents is as follows: 3.7% (23) possessed a high school diploma, 12.1% (76) had some college, less than a baccalaureate degree, 38.1% (239) had a bachelor's degree, 43.4% (272) had a graduate or professional degree (i.e. J.D.) degree, and 2.2% (14) possessed a doctoral degree. 0.5% (3) did not respond to the question.

The majority (53.1%) of the negotiators who responded indicated that they had received more than 40 hours of formal training in contract negotiation. 28.9% (181) of the respondents indicated that they had received more than 80 hours of formal training. 0.3% (2) respondents did not indicate their level of training.

Thirty six percent (226) of the respondents indicated that they spent more than 25% of their time in their current position either negotiating or managing contract negotiations. 45.9% (288) indicated that they spend less than 25% of their time in their current position negotiating or managing contract negotiations. 18.0% (113) indicated that they did not currently negotiate in their present position. 0.3% (2) did not respond to the question.

Demographic Summary

A composite survey respondent would be a male caucasian, between 36-45 years old, employed by private industry with 11 to 15 years of experience in the contracting field, possess a master's degree, have received between 20 and 40 hours of formal training on contract negotiations, and spends less than 25% of his time in his current position negotiating or managing the negotiation of contracts.

Because the primary focus of this research is the relationship between government and industry, Table 1 displays the frequency distributions of the personal demographic data when the data are stratified by employer. Table 2, on the other hand, shows the data pertaining to the professional demographics (i.e. experience, education, etc.) for the sample. Two professional demographics questions showed a statistically significant difference at the $P > .01$ level. Industry contract negotiators indicated that they have more years in the contracting profession (mean scores Industry = 3.02, standard deviation = 1.28; Government = 2.74, standard deviation = 1.19), while government negotiators indicated that they had received more formal training than their industry counterparts (mean scores Industry = 2.73, standard deviation = 1.60; Government = 3.15, standard deviation = 1.55).

Research Questions

The survey respondents used the following scale to indicate their level of use for each particular negotiation tactic and strategy:

1 - Never 2 - Seldom 3 - Sometimes 4 - Frequently 5 - Always

The statistics reported were calculated using the above scale to reflect the respondent's choices. Frequency distributions for each survey question is shown at Appendix F.

Table 1
PERSONAL DEMOGRAPHICS FREQUENCY
DISTRIBUTION BY EMPLOYER
(n = 588, G = 231, I = 357)
G = Government, I = Industry

| | | G | G | I | I | TOTAL | TOTAL |
|----------------------|-----------|-----|-------|-----|-------|-------|-------|
| | | (n) | (%) | (n) | (%) | (n) | (%) |
| Age | | | | | | | |
| | <25 | 5 | 2.2% | 1 | 0.3% | 6 | 1.0% |
| | 26-35 | 41 | 17.7% | 72 | 20.2% | 113 | 19.2% |
| | 36-45 | 119 | 51.5% | 128 | 35.8% | 247 | 42.0% |
| | 46-55 | 49 | 21.2% | 88 | 24.6% | 137 | 23.3% |
| | >55 | 17 | 17.4% | 68 | 19.1% | 85 | 14.5% |
| Gender | | | | | | | |
| | Male | 124 | 53.7% | 265 | 74.2% | 389 | 66.1% |
| | Female | 107 | 46.3% | 92 | 25.8% | 199 | 33.9% |
| Ethnic Origin | | | | | | | |
| | Caucasian | 206 | 89.2% | 341 | 95.5% | 546 | 92.9% |
| | Black | 7 | 3.0% | 8 | 2.2% | 15 | 2.5% |
| | Hispanic | 8 | 3.5% | 5 | 1.4% | 13 | 2.2% |
| | Oriental | 2 | 0.8% | 1 | 0.3% | 3 | 0.5% |
| | Other | 8 | 3.5% | 2 | 0.6% | 10 | 1.7% |

NOTE: 39 responses marked as 'Other' are not included in this analysis, therefore n=588.

Table 2

**PROFESSIONAL DEMOGRAPHICS FREQUENCY
DISTRIBUTION BY EMPLOYER**

(n = 588, G = 231, I = 357)

G = Government, I = Industry

| | G (n) | G (%) | I (n) | I (%) | TOTAL (n) | TOTAL (%) |
|---|----------|----------|----------|----------|--------------|--------------|
| <u>Years in Contracting***</u> | | | | | | |
| 0-5 | 42 | 18.2% | 46 | 12.9% | 88 | 15.0% |
| 6-10 | 61 | 26.4% | 95 | 26.6% | 156 | 26.5% |
| 11-15 | 59 | 25.5% | 77 | 21.6% | 136 | 23.1% |
| 16-25 | 54 | 23.4% | 83 | 23.2% | 137 | 23.3% |
| >25 | 15 | 6.5% | 56 | 15.7% | 71 | 12.1% |
| <u>Education</u> | | | | | | |
| High School | 9 | 3.9% | 13 | 3.6% | 24 | 4.1% |
| College * | 29 | 12.5% | 42 | 11.8% | 71 | 12.2% |
| Baccalaureate | 89 | 38.5% | 138 | 38.6% | 227 | 38.6% |
| Master's ** | 99 | 42.9% | 153 | 42.8% | 252 | 42.9% |
| Doctorate | 2 | 0.9% | 11 | 3.2% | 13 | 2.2% |
| <u>Hours of Training***</u> | | | | | | |
| 0-20 | 51 | 21.6% | 115 | 32.2% | 166 | 28.2% |
| 21-40 | 33 | 14.3% | 73 | 20.4% | 106 | 18.0% |
| 41-60 | 49 | 21.2% | 52 | 14.6% | 101 | 17.2% |
| 61-80 | 25 | 10.8% | 25 | 7.0% | 50 | 8.5% |
| >80 | 73 | 31.6% | 92 | 25.8% | 165 | 28.0% |
| <u>Time spent Negotiation in Current Job</u> | | | | | | |
| >75% | 12 | 5.2% | 13 | 3.6% | 25 | 4.2% |
| 50-75% | 21 | 9.0% | 36 | 10.1% | 57 | 9.7% |
| 25-50% | 45 | 19.5% | 86 | 24.1% | 131 | 22.3% |
| 0-25% | 91 | 39.4% | 179 | 50.1% | 270 | 45.9% |
| Do not negotiate | 61 | 26.4% | 42 | 11.8% | 103 | 17.5% |

NOTE: 39 responses marked as 'Other' are not included in this analysis, therefore n=588.

* less than baccalaureate degree

** includes professional degrees, i.e. J.D.

*** indicates a statistical difference between government and industry negotiators exists at the $p < .01$ level

Research Question One. *What negotiation tactics and strategies are most frequently used by contract negotiators?* The data indicate that all of the negotiation tactics and strategies are used to some extent. The median scores are reported to provide a more robust indicator of the respondent's overall responses. Table 3 shows the ten most used negotiation tactics indicated by the survey respondents.

Table 3

**NEGOTIATION TACTICS MOST FREQUENTLY USED
BY CONTRACT NEGOTIATORS
(n = 627)**

| <u>TACTIC</u> | <u>MEAN</u> | <u>S.D.</u> | <u>MEDIAN</u> |
|---|--------------------|--------------------|----------------------|
| Allow face saving exit | 3.3939 | 0.9853 | 3 |
| Split the difference | 3.0877 | 0.8974 | 3 |
| Pick and Choose the best deals | 2.9522 | 1.1602 | 3 |
| 'Bogey' - constrained by budget limits | 2.7799 | 0.9622 | 3 |
| Refer to your side's generosity | 2.7065 | 1.0237 | 3 |
| Call frequent caucuses | 2.6509 | 0.8888 | 3 |
| Belabor fair and reasonable | 2.4115 | 1.0498 | 2 |
| Massage opponent's ego | 2.4035 | 1.0118 | 2 |
| Refer to other side's past poor performance | 2.3796 | 1.0450 | 2 |
| Good Guy - Bad Guy roles | 2.3604 | 1.0624 | 2 |

It was also central to the research question to discover which of the listed negotiation tactics were not used by contract negotiators. It should be noted that the data show negotiators as a whole do not often use tactics that could be construed as negative or unethical in nature. The data also show that there is little or no difference between government and industry negotiators in terms of what tactics they tend to shy away from. Although the mean scores show that tactics are used to some extent, it is at the very low

end of the scale. The low standard deviations reflected of the least frequently used tactics also show relative agreement among the survey respondents as to the unappealing nature of the tactic. Table 4 indicates the negotiation tactics that are least used by the respondents.

Table 4
NEGOTIATION TACTICS LEAST FREQUENTLY USED
BY CONTRACT NEGOTIATORS
(n = 627)

| TACTIC | <u>MEAN</u> | <u>S.D.</u> | <u>MEDIAN</u> |
|---|--------------------|--------------------|----------------------|
| Adjust the thermostat | 1.1483 | 0.5320 | 1 |
| Deliberately leave errors in offers | 1.2137 | 0.5500 | 1 |
| Personal attack | 1.2504 | 0.5843 | 1 |
| Deliberately expose notes or working papers | 1.2998 | 0.6365 | 1 |
| Embarrass your opponent | 1.3413 | 0.6281 | 1 |
| Change negotiators | 1.5391 | 0.7454 | 1 |
| Reverse auctioning | 1.5742 | 0.9486 | 1 |
| 'Off the record' discussion | 1.6922 | 1.0092 | 1 |
| Negotiate with limited authority | 1.7544 | 1.0454 | 1 |
| Ask for excessive amounts of data | 1.8628 | 0.8518 | 2 |

The results reflecting the use of the identified negotiation strategies are shown in Table 5. Although the *Win-Win* strategy was shown to be the strategy most often used, the data clearly show that all of the strategies are used to some extent.

Research Question Two. *What is the personality type composition of contract negotiators?* The distribution of personality types as measured by the Myers-Briggs Type Indicator (MBTI) are shown at Table 6.

Table 5

USE OF IDENTIFIED
CONTRACT NEGOTIATION STRATEGIES
BY CONTRACT NEGOTIATORS
(n = 627)

| STRATEGY | <u>MEAN</u> | <u>S.D.</u> | <u>MEDIAN</u> |
|--|--------------------|--------------------|----------------------|
| Win - Win | 4.1738 | 0.9609 | 4 |
| Statistics - figures don't lie | 3.4019 | 1.0196 | 4 |
| Participation - involvement | 3.2998 | 1.0250 | 3 |
| Coverage - 'bottom lining' | 3.2648 | 0.9576 | 3 |
| Step-by-step | 3.0925 | 0.8597 | 3 |
| Combination - 'the big pot' | 2.9697 | 0.9152 | 3 |
| Definite action - 'testing the waters' | 2.8628 | 0.8740 | 3 |
| Limits - use limits to pressure the opposition | 2.7879 | 0.8745 | 3 |
| Patience - 'buying' time or stalling | 2.5439 | 0.9420 | 3 |
| Surprise | 2.2919 | 0.9111 | 2 |
| Reversal - 'the lesser of two evils' | 2.2632 | 0.9438 | 2 |

The majority of the respondents are grouped in the outside columns of the matrix, in the *Sensing-Thinking* (414, 66%) and *Intuitive-Thinking* (157, 25%) groupings. The respondents are more evenly distributed among the *Introverted-Judging* (190, 30.3%), *Introverted-Perceiving* (176, 28.1%), *Extraverted-Judging* (156, 25%), and *Extraverted-Perceiving* (105, 16.8%) groupings. *ISTJ* is the modal group, with *ISFJ*, *INFJ*, *ISFP*, and *ENFJ* all having less than 1% of the sample distribution.

As shown in Table 6, Introverts (I) (366, 58.4%) slightly outnumber the Extraverts (E) (261, 41.6%). However, the Sensors (S) (449, 71.6%) outnumber the Intuitives (I) (178, 28.4%) by almost three to one, and the Thinkers (T) (571, 91.1%) are

Table 6

DISTRIBUTION OF PERSONALITY TYPES OF CONTRACT
NEGOTIATORS AS MEASURED BY THE
MYERS-BRIGGS TYPE INDICATOR (MBTI)

(n = 627)

| | | | | | | |
|--------------------|--------------------|--------------------|--------------------|------------------|-----|-------|
| <i>ISTJ</i> | <i>ISFJ</i> | <i>INFJ</i> | <i>INTJ</i> | <i>E</i> | 261 | 41.6% |
| N = 151 | N = 3 | N = 3 | N = 33 | <i>I</i> | 366 | 58.4% |
| % = 24.1 | % = 0.5 | % = 0.5 | % = 5.3 | <i>S</i> | 449 | 71.6% |
| | | | | <i>N</i> | 178 | 28.4% |
| <i>ISTP</i> | <i>ISFP</i> | <i>INFP</i> | <i>INTP</i> | <i>T</i> | 571 | 91.1% |
| N = 101 | N = 5 | N = 7 | N = 63 | <i>F</i> | 56 | 8.9% |
| % = 16.1 | % = 0.8 | % = 1.1 | % = 10.0 | <i>J</i> | 295 | 47.0% |
| | | | | <i>P</i> | 332 | 53.0% |
| <i>ESTP</i> | <i>ESFP</i> | <i>ENFP</i> | <i>ENTP</i> | <i>IJ</i> | 190 | 30.3% |
| N = 79 | N = 20 | N = 10 | N = 47 | <i>IP</i> | 176 | 28.1% |
| % = 12.6 | % = 3.1 | % = 1.6 | % = 7.5 | <i>EP</i> | 156 | 24.9% |
| | | | | <i>EJ</i> | 105 | 16.7% |
| <i>ESTJ</i> | <i>ESFJ</i> | <i>ENFJ</i> | <i>ENTJ</i> | <i>ST</i> | 414 | 66.1% |
| N = 83 | N = 7 | N = 1 | N = 14 | <i>SF</i> | 35 | 5.6% |
| % = 13.2 | % = 1.0 | % = 0.16 | % = 2.2 | <i>NF</i> | 21 | 3.3% |
| | | | | <i>NT</i> | 157 | 25.0% |
| | | | | <i>SJ</i> | 244 | 38.9% |
| | | | | <i>SP</i> | 205 | 32.8% |
| | | | | <i>NP</i> | 127 | 20.2% |
| | | | | <i>NJ</i> | 51 | 8.1% |
| | | | | <i>TJ</i> | 281 | 44.8% |
| | | | | <i>TP</i> | 290 | 46.2% |
| | | | | <i>FP</i> | 42 | 6.7% |
| | | | | <i>FJ</i> | 14 | 2.3% |
| | | | | <i>IN</i> | 106 | 16.9% |
| | | | | <i>EN</i> | 72 | 11.5% |
| | | | | <i>IS</i> | 260 | 41.5% |
| | | | | <i>ES</i> | 189 | 30.1% |

NOTE: Percentages rounded off to the nearest tenth.

ten times the number of Feelers (F) (56, 8.9%). The Judgers (J) (295, 47.0%) as a group are slightly smaller than the Perceivers (P) (332, 53.0%), but not significantly so.

The survey respondents were compared to the SRI International Values and Lifestyle Program Survey to determine if the survey sample was similar to that of the general population. Because the SRI database is stratified by gender it was necessary to similarly stratify the survey sample for an adequate comparison. The Chi-Squared (χ^2) analysis for the male and female sample populations are shown below in Figure 3. As the test shows, the two populations are statistically different for both the male and female groups, more so for the females. Therefore, one can conclude that the composition of personality type as measured by the MBTI for the contract negotiators that responded to this survey is not the same as that of the general population.

Further analysis provided the personality type composition of government versus private industry contract negotiators, and is shown in Table 7. Aside from the types that were underrepresented for the entire sample, the two strata compare favorably in distribution of type. Only the ESTP types varied more than 2% between strata. The data show that when stratified by employer (government versus industry), the results are the same: both strata are statistically different from the general population. It is interesting to note that the government strata had a proportionately higher amount of females in the population than the industry strata, which ordinarily would have increased the number of *Feeling (F)* types. However, the under-representation in the *Feeling (F)* types can be directly attributed to the over-representation of female *Thinking (T)* types, although it is more pronounced in the government strata. In addition, more male *Thinking (T)* types are present in the sample, also accounting for the lack of representation of *Feeling (F)* types. The data also shows ST types in the industry strata account for the largest over-representation in the strata.

The strata were then compared to each other to determine if the frequency distribution for each personality type were similar. A chi-squared analysis was performed (Figure 4) using the larger industry strata as the base to which the government strata was compared. A chi-squared value of 9.1086 was received for males, and 23.3375 for females, indicating no significant differences between the two strata, at the .001 level of significance. The complete analyses are shown at Appendices I, J, and K. A summary of the analysis for the government negotiators is shown at Table 8, while that for the industry negotiators is shown at Table 9.

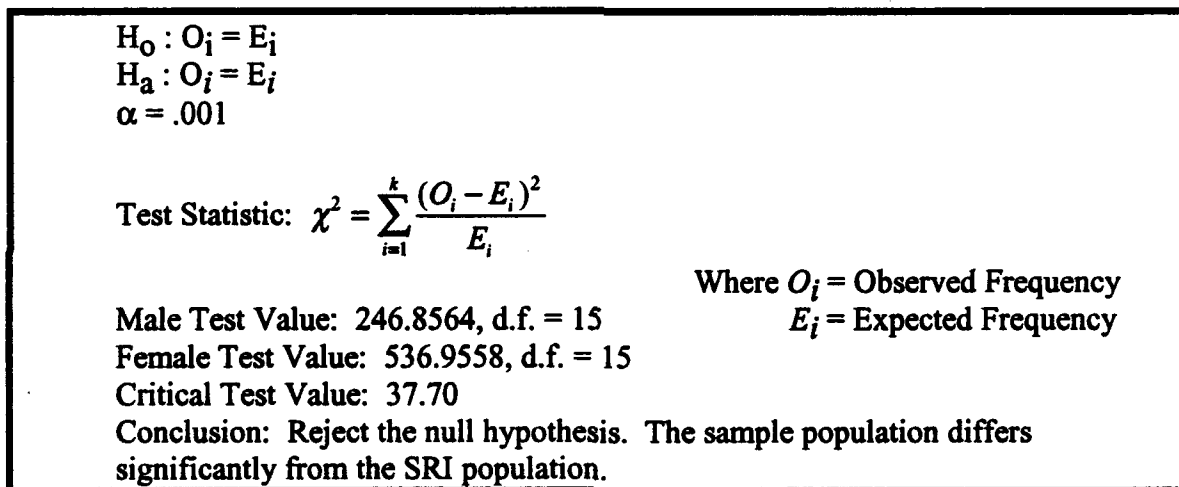


Figure 3. Chi-Squared (χ^2) Analysis Comparing the Survey Sample to the Database From the SRI International Values and Lifestyle Program Survey

Table 7

DISTRIBUTION OF PERSONALITY TYPES OF GOVERNMENT AND INDUSTRY
CONTRACT NEGOTIATORS AS MEASURED BY THE MBTI

(n = 588, GOVT = 231, IND = 357)

| <i>ISTJ</i> | <i>ISFJ</i> | <i>INFJ</i> | <i>INTJ</i> |
|--------------------|--------------------|--------------------|--------------------|
| GOVT = 59 | GOVT = 1 | GOVT = 0 | GOVT = 14 |
| % = 25.5 | % = 0.4 | % = 0.0 | % = 6.1 |
| IND = 84 | IND = 2 | IND = 3 | IND = 17 |
| % = 23.5 | % = 0.6 | % = 0.8 | % = 4.8 |
| Total = 143 | Total = 3 | Total = 3 | Total = 31 |
| <i>ISTP</i> | <i>ISFP</i> | <i>INFP</i> | <i>INTP</i> |
| GOVT = 40 | GOVT = 2 | GOVT = 2 | GOVT = 24 |
| % = 17.3 | % = 0.9 | % = 0.9 | % = 10.4 |
| IND = 55 | IND = 3 | IND = 5 | IND = 34 |
| % = 15.4 | % = 0.8 | % = 1.4 | % = 9.5 |
| Total = 95 | Total = 5 | Total = 7 | Total = 58 |
| <i>ESTP</i> | <i>ESFP</i> | <i>ENFP</i> | <i>ENTP</i> |
| GOVT = 22 | GOVT = 7 | GOVT = 5 | GOVT = 15 |
| % = 9.5 | % = 3.0 | % = 2.2 | % = 6.5 |
| IND = 51 | IND = 11 | IND = 3 | IND = 27 |
| % = 14.3 | % = 3.1 | % = 0.8 | % = 7.6 |
| Total = 73 | Total = 18 | Total = 8 | Total = 42 |
| <i>ESTJ</i> | <i>ESFJ</i> | <i>ENFJ</i> | <i>ENTJ</i> |
| GOVT = 33 | GOVT = 2 | GOVT = 0 | GOVT = 5 |
| % = 14.3 | % = 2.9 | % = 0.0 | % = 2.2 |
| IND = 47 | IND = 5 | IND = 1 | IND = 9 |
| % = 13.2 | % = 1.4 | % = 0.3 | % = 2.5 |
| Total = 80 | Total = 7 | Total = 1 | Total = 14 |

NOTE: Percentages rounded off to the nearest tenth.

Table 8

CHI-SQUARED (χ^2) ANALYSIS COMPARING GOVERNMENT
CONTRACT NEGOTIATORS MBTI FREQUENCY OBSERVED
AND EXPECTED DISTRIBUTIONS USING SRI INTERNATIONAL
VALUES AND LIFESTYLE PROGRAM (VALS) AS THE
EXPECTED FREQUENCY ESTIMATE

(n = 231, Male = 124, Female = 107)

Chi-Square: Male = 75.4846, Female = 232.5815

| MBTI TYPE | OBS. MALE | EXP. MALE | χ^2 Value | OBS. FEMALE | EXP. FEMALE | χ^2 Value |
|----------------------|----------------------|----------------------|----------------------------------|------------------------|------------------------|----------------------------------|
| ISFJ | 1 | 9 | 7.53 | 0 | 22 | 22.36 |
| ISFP | 0 | 4 | 3.60 | 2 | 10 | 6.35 |
| ESFJ | 1 | 5 | 3.52 | 1 | 13 | 11.34 |
| ESFP | 1 | 2 | 0.68 | 6 | 8 | .071 |
| ISTJ | 37 | 38 | 0.03 | 22 | 12 | 8.37 |
| ISTP | 26 | 10 | 23.97 | 14 | 5 | 16.74 |
| ESTJ | 13 | 15 | 0.33 | 20 | 9 | 13.49 |
| ESTP | 14 | 6 | 10.33 | 8 | 4 | 5.66 |
| INFJ | 0 | 2 | 2.23 | 0 | 4 | 4.07 |
| INFP | 1 | 4 | 2.69 | 1 | 4 | 2.51 |
| ENFJ | 0 | 2 | 1.98 | 0 | 3 | 2.89 |
| ENFP | 2 | 2 | 0.02 | 3 | 5 | 1.03 |
| INTJ | 7 | 6 | 0.14 | 7 | 2 | 10.05 |
| INTP | 12 | 5 | 11.27 | 12 | 1 | 126.50 |
| ENTJ | 2 | 8 | 4.56 | 3 | 2 | 0.25 |
| ENTP | 7 | 4 | 2.59 | 8 | 1 | 28.22 |

Table 9

**CHI-SQUARED (χ^2) ANALYSIS COMPARING INDUSTRY
CONTRACT NEGOTIATORS MBTI FREQUENCY OBSERVED
AND EXPECTED DISTRIBUTIONS USING SRI INTERNATIONAL
VALUES AND LIFESTYLE PROGRAM (VALS) AS THE
EXPECTED FREQUENCY ESTIMATE**

(n = 357, Male = 265, Female = 92)

Chi-Square: Male = 165.1073, Female = 244.9352

| MBTI TYPE | OBS. MALE | EXP. MALE | χ^2 Value | OBS. FEMALE | EXP. FEMALE | χ^2 Value |
|----------------------|----------------------|----------------------|----------------------------------|------------------------|------------------------|----------------------------------|
| ISFJ | 1 | 20 | 18.19 | 1 | 19 | 17.28 |
| ISFP | 1 | 8 | 5.82 | 2 | 9 | 5.02 |
| ESFJ | 2 | 11 | 7.75 | 3 | 11 | 6.20 |
| ESFP | 5 | 5 | 0.01 | 6 | 7 | 0.22 |
| ISTJ | 73 | 81 | 0.86 | 11 | 10 | 0.05 |
| ISTP | 43 | 22 | 20.06 | 12 | 4 | 14.26 |
| ESTJ | 35 | 33 | 0.18 | 12 | 8 | 2.36 |
| ESTP | 42 | 13 | 64.83 | 9 | 3 | 11.72 |
| INFJ | 1 | 5 | 2.98 | 2 | 3 | 0.64 |
| INFP | 1 | 10 | 7.64 | 4 | 4 | 0.03 |
| ENFJ | 0 | 4 | 4.24 | 1 | 2 | 0.89 |
| ENFP | 2 | 5 | 1.61 | 1 | 5 | 2.82 |
| INTJ | 13 | 13 | 0.00 | 4 | 2 | 2.21 |
| INTP | 24 | 10 | 19.27 | 10 | 1 | 101.6 |
| ENTJ | 7 | 17 | 6.07 | 2 | 2 | 0.00 |
| ENTP | 15 | 8 | 5.60 | 12 | 1 | 89.09 |

$$H_o : O_i = E_i$$

$$H_a : O_i \neq E_i$$

$$\alpha = .001$$

$$\text{Test Statistic: } \chi^2 = \sum_{i=1}^k \frac{(O_i - E_i)^2}{E_i}$$

Where O_i = Observed Frequency
 E_i = Expected Frequency

Male Test Value: 9.1086, d.f. = 15

Female Test Value: 23.3375, d.f. = 15

Critical Test Value: 37.70

Conclusion: Cannot reject the null hypothesis. The government negotiators do not statistically differ from the industry negotiators..

Figure 4. Chi-Squared (χ^2) Analysis Comparing the Personality Type Distribution of Government Contract Negotiators to that of Industry Contract Negotiators

Research Question Three. *Is there a negotiation tactic or strategy that relates to a particular personality type among contract negotiators?* A paired z - test using the scores stratified by the individual personality types to the sample population showed only one significant difference between a particular personality type and that of the population overall. The respondents identified as type INTJ differed significantly from the rest of the population on survey question 10, regarding the use of the negotiation tactic of allowing your opponent a 'face-saving' exit. The INTJ types indicated that they used this tactic more than the other types. See Appendix G for the analysis results.

One problem with this analysis method is that by comparing the individual types to the sample population removed that independence between the samples. Strata with many occurrences in the sample (ISTJ for example), would have little chance of indicating significant differences with the sample, because the strata itself makes up such a large portion of the sample. Also, standard deviations of each type for each of the survey questions were high. On a discrete scale of 1 to 5, standard deviations as high as 1.7569 (Government-Industry comparison, survey question 26) were shown. A large standard deviation on such a small scale causes any variation in the data to be masked,

even though that variation may be statistically significant. Therefore, the data were grouped by first major functional type preference (E, I, S, N, T, F, J, P), then by employer, and an independent paired z - test was conducted comparing each major functional type to the others (Appendix E).

The *Extraversion - Introversion (EI)* type grouping showed eight significant differences on the survey questions. They are shown in Table 10. Of the tactics that were identified as statistically different, the *Extravert (E)* negotiators used all of them more often than the *Introvert (I)* negotiators. Only in the use of one strategy (*Patience - Buying Time or Stalling*) did the *Introvert (I)* negotiators use the strategy more often than the *Extravert (E)* negotiators. In light of the propensity for *Introverts (I)* to internalize their thinking patterns and processes, the difference on the one strategy is rational. While both *Extravert (E)* and *Introvert (I)* negotiators indicate that confrontational tactics such as *Personal Attack* were not used often by either group (E mean score = 1.3027, I mean score = 1.2131), the difference between the two strata on the various tactics and strategies suggest that even though a particular tactic may not be used often by either strata, the *Extravert (E)* strata (or any other strata with the higher mean score) is more likely to use it than those negotiators in the *Introvert (I)* strata. When one considers the preference for *Extraverts (E)* to externalize their thinking process, and to want to interact with their surrounding world, it is logical to see that the *Extraverts(E)* show statistically significant differences (higher mean scores) with *Introverts (I)* on tactics such as *Call Frequent Caucuses*, *Massage Opponent's Ego*, and even the *Personal Attack*. The *Introvert (I)* does not like to deal with tactics such as those listed above, because they force the *Introvert (I)* out of the internal world that *Introverts (I)* are more comfortable with.

Table 10

**SUMMARY OF SIGNIFICANT DIFFERENCES
BETWEEN EXTRAVERSION AND INTROVERSION TYPE GROUPINGS**

| TACTIC | E MEAN | I MEAN | LEVEL OF SIGNIFICANCE |
|--|---------------|---------------|------------------------------|
| "Bogey" - constrained by budget limits | 2.9195 | 2.6803 | *** |
| "Must be on contract by (date)!" | 2.4253 | 2.2377 | ** |
| Call frequent caucuses | 2.7280 | 2.5956 | * |
| Make an offer they must refuse | 2.0805 | 1.9399 | * |
| Massage opponent's ego | 2.4828 | 2.3470 | * |
| Personal attack | 1.3027 | 1.2131 | * |
| Take it or leave it | 2.3142 | 2.1885 | * |
| STRATEGY | | | |
| Patience - Buying time or stalling | 2.4483 | 2.6120 | ** |

| Level of Significance | Z - Critical | Symbol |
|------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

The *Sensing - Intuitive* grouping showed more significant differences than any other grouping, on 19 questions: 14 on tactics questions, and five on strategy questions. They are shown in Table 11. The analysis shows that the greatest number of differences between functional type were between the *Sensing (S)* and *Intuitive (N)* types, showing that there were 14 statistically differences between *Sensing (S)* and *Intuitive (N)* types on tactics, and five on strategies. The tactics and the two strata differed on range from the non-confrontational *Allow for Face Saving Exit*, with high mean scores relative to all of the available tactics (ranked number one in terms of frequency of use by contract negotiators as a whole) to tactics such as *Embarrass Your Opponent*, and *Deliberately Expose Notes or Working Papers*, that ranked low in terms of frequency of use. The significance of the differences indicate that while both *Sensing (S)* and *Intuitive (N)*

negotiators as identifiable strata do not often use some tactics and strategies (such as *Embarrass Your Opponent*), the *Intuitive (N)* negotiator is more likely to use the tactics and or strategies than his or her *Sensing (S)* counterpart. According to the data, it can be concluded that the *Sensing (S)* negotiator uses tactics and strategies less than the *Intuitive (N)* negotiator. This is supported by the fact that of the tactics where the difference between the two groups was statistically significant, on only one tactic did the *Sensing (S)* negotiators use a tactic more often than the *Intuitive (N)* negotiator, that being the *Embarrass Your Opponent* tactic. This may in part be due to the *Intuitive's (N)* ability to preference on focusing on the possibilities of a situation. In other words, the *Intuitive's (N)* perceive that if an action is taken or word is spoken, it might have an impact on the negotiation. Hence the *Intuitive (N)* contract negotiator would show a propensity towards using negotiation tactics more often than *Sensing (S)* contract negotiators. *Sensing (S)* negotiators tend to rely more on the facts involved in a negotiation. If the information, or a word or gesture is not germane to the current scenario, the *Sensing (S)* negotiator would tend to dismiss it as not pertinent, failing to see the possibilities of employing a tactic to enhance his or her negotiation position.

The *Thinking-Feeling* grouping showed 10 significant differences on the survey questions, seven on tactics questions and three on strategy questions. These differences are displayed in Table 12. The *Thinking (T) - Feeling (F)* dichotomy showed 10 differences on negotiation tactics and strategies, seven on tactics and three on strategies. With the exception of the *Escalate to Your Boss* tactic, the *Thinking (T)* negotiators used the tactics shown to be statistically different more often than the *Feeling (F)* negotiators, leading to the conclusion that of the tactics where the two strata differ significantly, the *Thinking (T)* negotiators are more likely to use the identified tactics than *Feeling (F)* negotiators. In comparing use of strategies however, the *Feeling (F)* negotiator is more

Table 11

**SUMMARY OF SIGNIFICANT DIFFERENCES
BETWEEN SENSING AND INTUITIVE TYPE GROUPINGS**

| TACTIC | S MEAN | N MEAN | LEVEL OF SIGNIFICANCE |
|---|---------------|---------------|----------------------------------|
| Allow for face-saving exit | 3.2962 | 3.6404 | **** |
| Pick and choose the best deals | 2.8575 | 3.1910 | **** |
| Deliberately expose notes or working papers | 1.2405 | 1.4494 | **** |
| Escalate to opponent's boss | 2.2962 | 2.4944 | *** |
| "Good guy - Bad guy" roles | 2.2940 | 2.5281 | *** |
| Negotiate with limited authority | 1.6704 | 1.9663 | *** |
| "Off the record" discussion | 1.6147 | 1.8876 | *** |
| Play hard to get | 2.0668 | 2.2809 | *** |
| Reverse auctioning | 1.5011 | 1.7584 | *** |
| Embarrass your opponent | 1.3719 | 1.2640 | ** |
| Refer to the other side's past poor performance | 2.3229 | 2.5225 | ** |
| Ask for excessive amounts of data | 1.8218 | 1.9663 | * |
| "Bogey" - constrained by budget limits | 2.7416 | 2.8764 | * |
| Threaten to walk out | 1.8641 | 1.9944 | * |
| <u>STRATEGY</u> | | | |
| Limits | 2.7216 | 2.9551 | *** |
| Combination - The big pot | 2.9243 | 3.0843 | ** |
| Definite action - testing the waters | 2.8174 | 2.9775 | ** |
| Patience - Buying time or stalling | 2.4900 | 2.6798 | ** |
| Reversal - the lesser of two evils | 2.2160 | 2.3820 | ** |

| Level of Significance | Z - Critical | Symbol |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

likely to use the *Limits* and *Statistics* strategies that the *Thinking (T)* negotiator. Only on the *Combination - the Big Pot* strategy did the *Thinking (T)* negotiator show a statistical difference with the *Feeling (F)* negotiator. The *Thinking (T)* negotiator should be more prone to use tactics that are objective in nature, as in the case of the *Thinking (T)* group's higher mean score on tactics such as *Refer to the Other Side's Past Poor Performance*. The *Thinking (T)* negotiator feels that using this tactic is perfectly acceptable, as the facts of the past poor performance are evident, and are germane to the negotiation. On the other hand, the *Feeling (F)* negotiator would not use this tactic out of consideration for the other negotiator's feelings.

Table 12

SUMMARY OF SIGNIFICANT DIFFERENCES
BETWEEN THINKING AND FEELING TYPE GROUPINGS

| <u>TACTIC</u> | <u>T MEAN</u> | <u>F MEAN</u> | <u>LEVEL OF SIGNIFICANCE</u> |
|---|---------------|---------------|------------------------------|
| Embarrass your opponent | 1.3555 | 1.1964 | *** |
| Refer to the other side's past poor performance | 2.4168 | 2.000 | *** |
| Escalate to your boss | 2.1103 | 2.4107 | ** |
| Personal attack | 1.2609 | 1.1429 | ** |
| Reverse auctioning | 1.5937 | 1.3750 | ** |
| Play hard to get | 2.1454 | 1.9464 | * |
| Massage opponent's ego | 2.4256 | 2.1786 | * |
| <u>STRATEGY</u> | | | |
| Limits | 2.7653 | 3.0179 | ** |
| Combination - The big pot | 2.9912 | 2.7500 | * |
| Statistics - Figures don't lie | 3.4273 | 3.1429 | * |

| <u>Level of Significance</u> | <u>Z - Critical</u> | <u>Symbol</u> |
|------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

The same argument can be made for many of the other tactics that showed a statistical difference. While the *Thinking (T)* negotiator might find it acceptable to use the

Personal Attack tactic, the *Feeling (F)* negotiator would never do anything of the sort, as this would indicate indifference for the feelings of others, which is very important to the *Feeling (F)* type.

The *Judging-Perceiving* grouping showed four significant differences, the fewest of the four groupings. They are shown in Table 13. In the *Judging (J)* - *Perceiving (P)* dichotomy, only four tactics, and no strategies showed a statistical difference between the strata. *Perceiving (P)* negotiators showed a higher frequency of use than the *Judging (J)* negotiators for the four tactics where the groups were shown to be statistically different.

Table 13

SUMMARY OF SIGNIFICANT DIFFERENCES
BETWEEN JUDGING AND PERCEIVING TYPE GROUPINGS

| TACTIC | J MEAN | P MEAN | LEVEL OF SIGNIFICANCE |
|------------------------------|--------|--------|-----------------------|
| "Good guy - Bad guy" roles | 2.2407 | 2.4669 | *** |
| Allow face saving exit | 3.2983 | 3.4789 | ** |
| "Off the record" discussions | 1.6068 | 1.7681 | ** |
| High Ball offers | 1.8949 | 2.0331 | * |

| Level of Significance | Z - Critical | Symbol |
|-----------------------|--------------|--------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

Research Question Four. *Is there a difference in negotiation strategies or tactics used by government and industry negotiators?* The data were stratified by employer. There was not a significant difference between the order of use of the particular tactics and strategies, as shown in Table 14. The data did show that the industry negotiators tended towards a higher level of use of specific tactics than their government counterparts, as

reflected in the higher means of the top six ranked tactics. However, the means for the bottom four tactics for industry negotiators decrease much more rapidly than the means for the bottom four government tactics, indicating that the industry negotiators have tactics that they prefer to use more and less often than any others. The data show that while the government negotiators use negotiation tactics, they do so less frequently than their industry counterparts.

Table 14

**A COMPARISON OF MEAN SCORES OF
NEGOTIATION TACTICS MOST FREQUENTLY USED
BY GOVERNMENT AND INDUSTRY CONTRACT NEGOTIATORS**

(n = 627, G = 231, I = 357)

| <u>GOVERNMENT</u> | <u>MEAN</u> | <u>INDUSTRY</u> | <u>MEAN</u> |
|---|--------------------|---|--------------------|
| Allow face saving exit | 3.2078 | Allow face saving exit | 3.5322 |
| Split the difference offers | 2.9091 | Split the difference offers | 3.2269 |
| Pick and choose the best deals | 2.7706 | Pick and choose the best deals | 3.0420 |
| Bogey - constrained by budget | 2.7662 | Refer to your side's generosity | 2.8263 |
| Call frequent caucuses | 2.5671 | Bogey - constrained by budget | 2.7899 |
| Refer to your side's generosity | 2.5411 | Call frequent caucuses | 2.7367 |
| Refer to other side's past poor performance | 2.4286 | Refer to other side's past poor performance | 2.3333 |
| Belabor fair and reasonable | 2.3463 | Must be on contract by date | 2.3277 |
| Low Ball offers | 2.3290 | Impose no smoking rule | 1.9972 |
| Escalate to opponent's boss | 2.2944 | Ask for excessive amounts of data | 1.8571 |

Table 15 shows that while there is not a significant difference in the strategies used by both government and industry negotiators, again the data suggests that while government negotiators use negotiation strategies, they do so at a level lower than that of the industry negotiators. While both government and industry negotiators indicated that they did use the Limits strategy, both groups indicated in the tactics portion of the survey

that they did not use limited-type tactics during negotiation. The negotiators indicated that they did not often use the *Negotiation with Limited Authority* tactic (Government mean was 1.6926, Industry mean was 1.7787), nor the *My plane leaves at (time)!* tactic (Government mean was 1.8095, Industry mean was 1.9552). However, they did express a willingness to use a contract deadline as a limitation in conducting negotiations (Government mean 2.2727, Industry mean 2.3277).

Table 15 shows a comparison of government versus industry negotiators use of negotiation strategy. Although both groups selected the *Win-Win* strategy most often, the government negotiators used it less frequently than the industry negotiators. Also, it should be noted that the level of use for all of the strategies was higher than that of tactics, regardless of employer. This despite the definition provided to the survey respondents that defined negotiation strategy as "*an organized plan or approach to negotiations from an overall perspective which may be comprised of one or more than one tactic*" (Catlin and Faenza, 1985:99). Again, the level of use of negotiation strategies by government negotiators was lower throughout all of the strategies than their industry counterparts.

A test of hypothesis was conducted to determine if statistically significant differences exist between the two groups in terms of how often each group used the respective tactics and/or strategies. The same test statistic (paired z- test) was used as in previous analyses. The data was stratified by employer, excluding respondents who answered Other to the question. Results of the paired z - tests are shown at Appendix G. Respondents who reported Federal, Local, or State Government were grouped as the government

Table 15

**A COMPARISON OF MEAN SCORES OF NEGOTIATION STRATEGIES USED BY
GOVERNMENT AND INDUSTRY CONTRACT NEGOTIATORS**
(n = 627, G = 231, I = 357, Other = 39)

| GOVERNMENT | MEAN | INDUSTRY | MEAN |
|--------------------------------------|-------------|--------------------------------------|-------------|
| Win-Win | 4.0909 | Win-Win | 4.2465 |
| Statistics - Figures don't lie | 3.3723 | Statistics - Figures don't lie | 3.4622 |
| Participation/Involvement | 3.3117 | Coverage - Bottom Lining | 3.4510 |
| Step-by-Step | 3.0433 | Participation/Involvement | 3.3221 |
| Coverage - Bottom Lining | 3.0303 | Step-by-Step | 3.1289 |
| Limits | 2.8788 | Combination - the Big Pot | 3.0840 |
| Definite Action - Testing the Waters | 2.8312 | Definite Action - Testing the Waters | 2.9188 |
| Combination - the Big Pot | 2.7965 | Limits | 2.7395 |
| Patience - Buying Time or Stalling | 2.4026 | Patience - Buying Time or Stalling | 2.6443 |
| Surprise | 2.2814 | Reversal - the Lesser of Two Evils | 2.3109 |
| Reversal - the Lesser of Two Evils | 2.1991 | Surprise | 2.3053 |

| Level of Significance | Z - Critical | Symbol |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

negotiators, and respondents who answered Industry were grouped as such. The analysis shows that 25 significant differences between the groups exist, 20 tactics questions, and 5 strategy questions. The tactics and strategies that differed between the two are identified in Table 16. One would expect to find that government negotiators would use *Appeal to Patriotism*, *Impose No Smoking Rule*, and *Low Ball* tactics more often than industry negotiators due to the nature of the respective environments (federal versus commercial contracting), and that industry negotiators would use *Pick and Choose the Best Deals* and *High Ball* tactics more often. This is in fact borne out by the data. The *High Ball* tactic is used more often by industry negotiators as a result of the industry negotiators supplying goods and services (usually to the government) and offering those goods and

services at a price higher than what they really expect to receive. Industry negotiators assuming the role of the offeror in a business transaction or negotiation would also account for the use of the *Pick and Choose the Best Deals*, as the government negotiators seldom, if ever, find themselves in the situation of selecting which requirement to fulfill. Regarding the *Low Ball* tactic, the government negotiators would be expected to offer to pay lower than the offered price because they are purchasers as opposed to offerors for the most part. Invoking the *Impose No Smoking Rule* is logical for the government negotiators because of a federal ban on smoking in federal buildings outside of designated smoking areas. It is also easy to see the government negotiators using the *Appeal to Patriotism* tactic more often than their industry counterparts, as it is unique to the government.

Research Question Five. *Is there a difference in negotiation tactics or strategies used relating to personality type between government and industry negotiators?* The grouped data was stratified by employer and analyzed using the same method as the previous question's data (paired z - test). Results are shown in Appendix H.

The *Extravert* grouping showed 11 significant differences between government and industry negotiators, on eight tactics questions and three strategy questions. The differences are shown in Table 17.

As discussed in the latter portion of Research Question Four, we would expect to find certain tactics and strategies appear because of the different environments in which the two groups work. The tactics (*Appeal to Patriotism*, *Impose No Smoking Rule*, *High Ball*, *Low Ball*, *Pick and Choose the Best Deals*) and strategies (*Combination* and *Coverage*) appear as statistically significant differences for the *Extraverts (E)*.

Table 16

SIGNIFICANT DIFFERENCES IN
TACTICS AND STRATEGIES USED BY
GOVERNMENT AND INDUSTRY
CONTRACT NEGOTIATORS

(n = 588)

| <u>TACTICS</u> | <u>GOVT MEAN</u> | <u>INDUSTRY MEAN</u> | <u>LEVEL OF SIGNIFICANCE</u> |
|------------------------------------|----------------------|--------------------------|----------------------------------|
| Allow face saving exit | 3.2078 | 3.5322 | **** |
| Appeal to patriotism | 2.0823 | 1.8095 | **** |
| Deadlock the negotiations | 1.9264 | 2.1849 | **** |
| "Good guy - Bad guy" roles | 2.1818 | 2.4874 | **** |
| High ball offers | 1.6104 | 2.2017 | **** |
| Low Ball offers | 2.3290 | 1.8711 | **** |
| Massage opponent's ego | 2.1861 | 2.5602 | **** |
| Refer to your side's generosity | 2.5411 | 2.8263 | **** |
| Split the difference offers | 2.9091 | 3.2269 | **** |
| Pick and choose the best deals | 2.7706 | 3.0420 | *** |
| Escalate to your boss | 1.9784 | 2.2185 | *** |
| "Off the record" discussion | 1.5714 | 1.7983 | *** |
| Play hard to get | 1.9913 | 2.2241 | *** |
| Call frequent caucuses | 2.5671 | 2.7367 | ** |
| Reverse auctioning | 1.4459 | 1.6387 | ** |
| Change negotiators | 1.4632 | 1.6022 | ** |
| Impose no smoking rule | 2.2381 | 1.9972 | * |
| "My plane leaves at (time)!" | 1.8095 | 1.9552 | * |
| Take it or leave it | 2.1558 | 2.2941 | * |
| Threaten to walk out | 1.8139 | 1.9440 | * |
| <u>STRATEGY</u> | | | |
| Combination - the big pot | 2.7965 | 3.0840 | **** |
| Coverage - bottom lining | 3.0303 | 3.4510 | **** |
| Patience - buying time or stalling | 2.4026 | 2.6443 | *** |
| Limits | 2.8788 | 2.7395 | * |
| Win - Win | 4.0909 | 4.2465 | * |

| <u>Level of Significance</u> | <u>Z - Critical</u> | <u>Symbol</u> |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

Table 17

COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE EXTRAVERT TYPE GROUPING

(n = 588)

| <u>TACTICS</u> | <u>GOVT MEAN</u> | <u>INDUSTRY MEAN</u> | <u>LEVEL OF SIGNIFICANCE</u> |
|--------------------------------|----------------------|--------------------------|----------------------------------|
| Allow face saving exit | 3.1461 | 3.5909 | **** |
| High Ball offers | 1.6404 | 2.2857 | **** |
| Low Ball offers | 2.3483 | 1.8182 | **** |
| Appeal to patriotism | 2.1685 | 1.7857 | *** |
| Impose no smoking rule | 2.5169 | 1.8571 | *** |
| Split the difference offers | 2.9101 | 3.2403 | *** |
| Pick and choose the best deals | 2.7191 | 3.1039 | ** |
| Reverse auctioning | 1.4045 | 1.6169 | * |
| <u>STRATEGY</u> | | | |
| Coverage - Bottom lining | 2.8989 | 3.4351 | **** |
| Combination - the big pot | 2.8315 | 3.0779 | ** |
| Limits | 2.9888 | 2.7273 | ** |

| <u>Level of Significance</u> | <u>Z - Critical</u> | <u>Symbol</u> |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

The *Introvert* grouping showed the most significant differences between the government and industry segments, with differences recorded on 21 tactics questions and 5 strategy questions. The tactics and strategies where the two segments differed are shown in Table 18. The same tactics appeared as discussed regarding the *Extraverts (E)* (*Appeal to Patriotism, High Ball, Low Ball, etc.*), with the exception of *Impose the No Smoking Rule*. Also, the *Appeal to Patriotism* tactic shows up at a lesser level of significance than with the *Extravert (E)* grouping ($p < .1$ versus $p < .01$ for the *Extraverts (E)*). In addition many new tactics appear as statistically significant differences. One statistically

significant difference in a tactic stands out here, that being the *Patience - Buying Time or Stalling* strategy. This is a strategy one would expect *Introverts (I)* to use more often than the other types, given their preference for internalizing their thought processes. One possible explanation for this difference might lie in the requirement for government negotiators to place a requirement on contract as soon as possible. The fact that the *Deadlock the Negotiations* appears as a statistically significant difference between government and industry negotiators for *Introverts (I)* supports this possibility, however, it is not possible to confirm this given the data collected in this research.

The *Sensing* group showed 19 differences recorded on tactics questions, and six on strategy questions. This group differed on strategies more than any other type grouping. The result are shown in Table 19. This grouping reflected the expected tactics and strategies as had the previous type groupings, plus many more at the $p < .001$ level of significance. As with the other type groupings that showed a large number of statistically significant differences, there seem to be undetermined forces at work within this type grouping that influence the government versus industry relationship with each psychological type. As the questionnaire was structured to investigate the relationships between psychological type and use of negotiation tactics and strategies, it is not possible to venture any more than a guess as to the reasons behind some of the differences. The *Patience* strategy and *Deadlock the Negotiations* tactic again appear under this type grouping.

Table 18

**COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE INTROVERT TYPE GROUPING
(n = 588)**

| TACTICS | GOVT MEAN | INDUSTRY MEAN | LEVEL OF SIGNIFICANCE |
|------------------------------------|----------------------|--------------------------|----------------------------------|
| Deadlock the negotiations | 1.8239 | 2.2217 | **** |
| Escalate to your boss | 1.8521 | 2.2562 | **** |
| "Good guy - Bad guy" roles | 2.0845 | 2.5172 | **** |
| High Ball offers | 1.5915 | 2.1379 | **** |
| Low Ball offers | 2.3169 | 1.9113 | **** |
| Massage opponent's ego | 2.0775 | 2.5616 | **** |
| Refer to your side's generosity | 2.5070 | 2.9261 | **** |
| Split the difference offers | 2.9085 | 3.2167 | *** |
| Play hard to get | 1.9437 | 2.2512 | *** |
| "My plane leaves at (time)!" | 1.7324 | 2.0197 | *** |
| Call frequent caucuses | 2.4437 | 2.7389 | *** |
| Adjust the thermostat | 1.0704 | 1.1823 | ** |
| Threaten to walk out | 1.7465 | 1.9704 | ** |
| Allow face saving exit | 3.2465 | 3.4877 | ** |
| Change negotiators | 1.4437 | 1.6355 | ** |
| Take it or leave it | 2.0634 | 2.2808 | ** |
| "Off the record" discussions | 1.5352 | 1.7931 | ** |
| Reverse auctioning | 1.4718 | 1.6552 | * |
| Appeal to patriotism | 2.0282 | 1.8276 | * |
| "Must be contract by (date)!" | 2.1127 | 2.3153 | * |
| Belabor fair and reasonable | 2.3099 | 2.5025 | * |
| STRATEGY | | | |
| Coverage - bottom lining | 3.1127 | 3.4631 | **** |
| Patience - buying time or stalling | 2.3944 | 2.7882 | **** |
| Combination - the big pot | 2.7746 | 3.0887 | *** |
| Reversal - the lesser of two evils | 2.1549 | 2.3350 | * |
| Step by step | 2.9859 | 3.1675 | * |

| Level of Significance | Z - Critical | Symbol |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

Table 19

**COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE SENSING TYPE GROUPING
(n = 588)**

| TACTICS | GOVT MEAN | INDUSTRY MEAN | LEVEL OF SIGNIFICANCE |
|------------------------------------|----------------------|--------------------------|----------------------------------|
| Allow face saving exit | 3.0422 | 3.4651 | **** |
| Pick and choose the best deals | 2.5723 | 2.9961 | **** |
| Deadlock the negotiations | 1.8735 | 2.1822 | **** |
| "Good guy - Bad guy" roles | 2.0361 | 2.4574 | **** |
| High Ball offers | 1.5422 | 2.1899 | **** |
| Low Ball offers | 2.2711 | 1.8527 | **** |
| Massage opponent's ego | 2.1627 | 2.5233 | **** |
| Refer to your side's generosity | 2.4819 | 2.8178 | **** |
| Split the difference offers | 2.9337 | 3.2558 | **** |
| "Off the record" discussion | 1.4578 | 1.7248 | *** |
| Play hard to get | 1.9036 | 2.1705 | *** |
| Appeal to patriotism | 2.0482 | 1.7984 | ** |
| Call frequent caucuses | 2.5241 | 2.7403 | ** |
| Change negotiators | 1.4036 | 1.5814 | ** |
| Escalate to your boss | 1.9578 | 2.1860 | ** |
| Negotiate with limited authority | 2.5181 | 1.7422 | ** |
| Reverse auctioning | 1.3855 | 1.5620 | ** |
| Impose no smoking rule | 2.2470 | 1.9380 | * |
| Threaten to walk out | 1.7711 | 1.9225 | * |
| STRATEGY | | | |
| Combination - the big pot | 2.7229 | 3.0659 | **** |
| Coverage - bottom lining | 3.0000 | 3.4690 | **** |
| Patience - buying time or stalling | 2.3072 | 2.6124 | *** |
| Reversal - the lesser of two evils | 2.1205 | 2.2829 | * |
| Step by step | 2.9699 | 3.1279 | * |
| Win - Win | 4.0723 | 4.2442 | * |

| Level of Significance | Z - Critical | Symbol |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

The *Intuitive* grouping showed far fewer significant differences than the other groupings, with differences on eight tactics questions and two strategy questions. The differences are shown in Table 20. Again the common differences appear within this type grouping (*High Ball*, *Low Ball*, and *Appeal to Patriotism*), but others are notably absent, specifically the *Impose No Smoking Rule*, and *Pick and Choose the Best Deal*. The reason(s) for this absence were not able to be determined from the data.

Table 20

COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE INTUITIVE TYPE GROUPING

(n = 588)

| <u>TACTICS</u> | <u>GOVT MEAN</u> | <u>INDUSTRY MEAN</u> | <u>LEVEL OF SIGNIFICANCE</u> |
|---|----------------------|--------------------------|----------------------------------|
| High Ball offers | 1.7846 | 2.2323 | *** |
| Low Ball offers | 2.4769 | 1.9192 | *** |
| Appeal to patriotism | 2.1692 | 1.8384 | ** |
| Massage opponent's ego | 2.2462 | 2.6566 | ** |
| Split the difference offers | 2.8462 | 3.1515 | ** |
| Bogey - constrained by budget limits | 2.7231 | 2.9798 | * |
| Refer to the other side's past poor performance | 2.7077 | 2.4343 | * |
| Escalate to your boss | 2.0308 | 2.3030 | * |
| <u>STRATEGY</u> | | | |
| Coverage - bottom lining | 3.1077 | 3.4040 | * |
| Participation/Involvement | 3.5692 | 3.2828 | * |

| <u>Level of Significance</u> | <u>Z - Critical</u> | <u>Symbol</u> |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

The *Thinkers* as a grouping showed 23 significant differences between the two segments of the population, 19 on tactics questions, and four on strategy questions. The differences are shown in Table 21. The expected tactics are shown under this grouping. While *Deadlock the Negotiations* shows as a statistically significant difference, it is also accompanied by the *Patience* strategy, as it was under the *Introvert (I)* type grouping.

Table 21

COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE THINKING TYPE GROUPING

(n = 588)

| <u>TACTICS</u> | <u>GOVT MEAN</u> | <u>INDUSTRY MEAN</u> | <u>LEVEL OF SIGNIFICANCE</u> |
|------------------------------------|----------------------|--------------------------|----------------------------------|
| Allow face saving exit | 3.1792 | 3.5401 | **** |
| Deadlock the negotiations | 1.9104 | 2.2068 | **** |
| "Good guy - Bad guy" roles | 2.1792 | 2.5093 | **** |
| High Ball offers | 1.6179 | 2.2068 | **** |
| Low Ball offers | 2.3538 | 1.8765 | **** |
| Massage opponent's ego | 2.2217 | 2.5741 | **** |
| Refer to your side's generosity | 2.5330 | 2.8611 | **** |
| Split the difference offers | 2.8821 | 3.2438 | **** |
| Appeal to patriotism | 2.0802 | 1.8117 | *** |
| "Off the record" discussions | 1.5613 | 1.8086 | *** |
| Play hard to get | 2.0047 | 2.2469 | *** |
| Escalate to your boss | 1.9528 | 2.1975 | *** |
| Call frequent caucuses | 2.5755 | 2.7562 | ** |
| Pick and choose the best deals | 2.7972 | 3.0463 | ** |
| Reverse auctioning | 1.4623 | 1.6574 | ** |
| Change negotiators | 1.4764 | 1.6049 | * |
| Escalate to opponent's boss | 2.2736 | 2.4074 | * |
| Impose no smoking rule | 2.2972 | 2.0185 | * |
| Threaten to walk out | 1.8208 | 1.9568 | * |
| <u>STRATEGY</u> | | | |
| Combination - the big pot | 2.8160 | 3.1173 | **** |
| Coverage - bottom lining | 3.0425 | 3.4691 | **** |
| Patience - buying time or stalling | 2.4198 | 2.6543 | *** |
| Win - Win | 4.0991 | 4.2685 | ** |

| <u>Level of Significance</u> | <u>Z - Critical</u> | <u>Symbol</u> |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

The *Feeling* grouping showed significantly lower differences between the government and industry negotiators. Only four significant differences were recorded, on three tactics questions and one strategy question. The results are shown in Table 22. It is in this grouping that we show some interest, because of the lack of a few of the expected tactics and strategies. Notable by their absence are the *Low Ball*, *Impose No-Smoking Rule*, *Pick and Choose the Best Deals*, and *Appeal to Patriotism* tactics, and the *Patience* strategy. In addition, the *Feeling (F)* group reverses the trend for government negotiators to use the *High Ball* tactic less frequently than the industry negotiators. The reason for this reversal is unknown. In light of the *Feeler's* need to empathize with others, to share their pain and discomfort, and their desire to 'do the right thing' so as to avoid alienating others, the fact that they did not differ on many tactics and strategies might be indicative of the strength of their desire to consider the feelings of others. It is interesting to note, however, that the *Massage Opponent's Ego* tactic was used more often by the industry negotiators, as well as the *Deliberately Leave Errors in Offers* tactic. No explanation is offered for this, as the data does not support a conclusion.

The *Judging* type grouping showed 16 questions where the government and industry differed, 11 on tactics questions and 5 on strategy questions. The summary is shown in Table 23. Here again, the *Judging (J)* group reversed what was expected in terms of the expected significance of the *High Ball* and *Low Ball* tactics, with the industry negotiators using these tactics more frequently than their government counterparts.

The *Perceiving* type grouping showed 21 significant differences on the questions, 18 on tactics questions and 3 on strategy questions. The summary of differences is shown in Table 24. Here the expected tactics and strategies and their relationship to the contracting environments (government versus industry) arise as expected.

Table 22

COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE FEELING TYPE GROUPING

(n = 588)

| TACTICS | GOVT MEAN | INDUSTRY MEAN | LEVEL OF SIGNIFICANCE |
|-------------------------------------|----------------------|--------------------------|----------------------------------|
| Massage opponent's ego | 2.2105 | 2.4242 | *** |
| Deliberately leave errors in offers | 1.0526 | 1.3333 | ** |
| High Ball offers | 1.5263 | 2.1515 | ** |
| STRATEGY | | | |
| Limits | 3.3158 | 2.9091 | * |

| Level of Significance | Z - Critical | Symbol |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

Summary

This chapter presented the results of the analyses of the data collected via the survey questionnaire. It presented demographical data, as well as detailed reporting of personality type distribution among contract negotiators, level of use of contract negotiation tactics and strategies, and the results of the statistical tests described in Chapter 3 Methodology in attempting to determine the relationship of personality type as measured by the MBTI and contract negotiation tactics and/or strategies. The next chapter will discuss the results, and render conclusions on the research hypotheses.

Table 23

COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE JUDGING TYPE GROUPING

(n = 588)

| <u>TACTICS</u> | <u>GOVT MEAN</u> | <u>INDUSTRY MEAN</u> | <u>LEVEL OF SIGNIFICANCE</u> |
|------------------------------------|----------------------|--------------------------|----------------------------------|
| High Ball offers | 1.6491 | 2.0714 | **** |
| Low Ball offers | 2.4561 | 1.7976 | **** |
| Massage opponent's ego | 2.1491 | 2.5833 | **** |
| Appeal to patriotism | 2.1579 | 1.8393 | *** |
| Change negotiators | 1.3947 | 1.6369 | *** |
| "Good guy - Bad guy" roles | 2.0088 | 2.4048 | *** |
| Split the difference offers | 2.9123 | 3.2321 | *** |
| Allow face saving exit | 3.1053 | 3.4107 | ** |
| Pick and choose the best deals | 2.7456 | 3.0714 | ** |
| Escalate to your boss | 1.9561 | 2.2440 | ** |
| Negotiate with limited authority | 1.5526 | 1.8214 | ** |
| <u>STRATEGY</u> | | | |
| Coverage - bottom lining | 3.0965 | 3.4048 | *** |
| Combination - the big pot | 2.7719 | 3.0238 | ** |
| Limits | 2.8772 | 2.6429 | ** |
| Win - Win | 4.0175 | 4.2798 | ** |
| Patience - buying time or stalling | 2.4211 | 2.6429 | * |

| <u>Level of Significance</u> | <u>Z - Critical</u> | <u>Symbol</u> |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

Table 24

COMPARISON OF SIGNIFICANT DIFFERENCES IN NEGOTIATION TACTICS
AND STRATEGIES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT
NEGOTIATORS WITHIN THE PERCEIVING TYPE GROUPING

(n = 588)

| <u>TACTICS</u> | <u>GOVT MEAN</u> | <u>INDUSTRY MEAN</u> | <u>LEVEL OF SIGNIFICANCE</u> |
|---|----------------------|--------------------------|----------------------------------|
| Play hard to get | 1.9487 | 2.3069 | **** |
| Deadlock the negotiations | 1.8974 | 2.2646 | **** |
| High Ball offers | 1.5726 | 2.3175 | **** |
| Allow face saving exit | 3.3077 | 3.6402 | *** |
| Refer to your side's generosity | 2.4274 | 2.8148 | *** |
| Reverse auctioning | 1.4017 | 1.6878 | *** |
| Split the difference offers | 2.9060 | 3.2222 | *** |
| Take it or leave it | 2.0000 | 2.2963 | *** |
| Threaten to walk out | 1.6923 | 1.9841 | *** |
| "My plane leaves at (time)!" | 1.6752 | 2.0212 | *** |
| Appeal to patriotism | 2.0085 | 1.7831 | ** |
| Low Ball offers | 2.2051 | 1.9365 | ** |
| Massage opponent's ego | 2.2222 | 2.5397 | ** |
| "Off the record" discussions | 1.6514 | 1.9101 | ** |
| Refer to the other side's past poor performance | 2.5128 | 2.2646 | ** |
| Belabor fair and reasonable | 2.2906 | 2.5185 | * |
| Call frequent caucuses | 2.5726 | 2.7725 | * |
| Escalate to your boss | 2.000 | 2.1958 | * |
| <u>STRATEGY</u> | | | |
| Coverage - bottom lining | 2.9658 | 3.4921 | **** |
| Combination - the big pot | 2.8205 | 3.1376 | *** |
| Patience - buying time or stalling | 2.3846 | 2.6455 | ** |

| <u>Level of Significance</u> | <u>Z - Critical</u> | <u>Symbol</u> |
|----------------------------------|---------------------|---------------|
| p < .1 | 1.64 | * |
| p < .05 | 1.96 | ** |
| p < .01 | 2.57 | *** |
| p < .001 | 3.27 | **** |

V. Conclusions

This chapter presents conclusions based on the results and analyses of the data presented in the previous chapter. The conclusions are discussed by order of research question. The research questions will present the hypotheses and conclusions based upon the results and analyses from Chapter IV.

Research Objective Conclusions

The objectives of the research were to determine:

- A) what negotiation tactics and strategies are used, and how often;
- B) the relationship between government contract negotiators and industry negotiators in terms of what tactics and strategies are used by each group, and how often;
- C) if government contract negotiators, as a population, differ from their industry counterparts in terms of psychological composition; and
- D) the relationship, if one exists, between psychological type and the level of use of certain negotiation tactics and/or strategies for both government and industry negotiators.

The research objectives were met via the answering of the research questions. It was established that various tactics and strategies are used by contract negotiators, and that

they are used in varying frequency. It was determined that industry contract negotiators report more frequent use of negotiation tactics and strategies than their government counterparts (that is to say that industry contract negotiators recorded more responses in the *Sometimes*, *Frequently*, and *Always* range than government negotiators).

It was also established that the government and industry negotiators are similar in terms of personality type distribution (psychological composition), and that there is a relationship between psychological type and frequency of use of certain negotiation tactics and strategies.

Research Question One Conclusions. The first research question looked at which negotiation tactics and strategies are used by contract negotiators, and how often. The question was structured as exploratory, with no hypothesis offered. This question was answered using descriptive statistics, specifically using mean, standard deviation, and median. The tactics and strategies were ranked in descending order by their mean, with a higher mean indicating that the tactic or strategy was used more often than those following it.

The data show that a variety of negotiation tactics and strategies are used by contract negotiators. The most often used tactics seem to be those that, while allowing for the involved parties to maintain decorum and their sense of fair play, do not necessarily make the best business sense. Non-confrontational tactics such as *Allow Face-Saving Exit* (mean score = 3.3939, median = 3), *Split the Difference* (mean score = 3.0877, median = 3), *Pick and Choose the Best Deals* (mean score = 2.9522, median = 3), *'Bogey' - Constrained by Budget Limits* (mean score = 2.7799, median = 1), and *Refer to Your Side's Generosity* (mean score = 2.7065, median = 3) were used most often. Although the mean scores are in the *Sometimes* and *Seldom* range, the standard deviations indicate that many negotiators use the tactics more (and less) than the means indicate. This is one reason the median scores were included in the analyses, to provide

the reader with a more robust indicator of the sample population's responses to the questions, as the median score indicates that point on the scale at which 50% of the responses lie both above and below.

Negotiation tactics and strategies such as *Adjust the Thermostat* (mean score = 1.1483, median = 1), *Deliberately Leave Errors on Offers* (mean score = 1.2137, median = 1), *Personal Attack* (mean score = 1.2504, median = 1), etc., came out at the very bottom of the rankings (meaning that negotiators responded with either *Never*, *Seldom* or *Sometimes*), indicating that the negotiators are very aware of the implication of using tactics of this type.

When negotiation strategies are examined, however, the mean scores for the entire group rise. This could be because of the connotation of the word 'strategy' versus that of 'tactic', but the survey was not structured to provide this information.

The *Win-Win* strategy was shown to be the most often used negotiation strategy for contract negotiators as a whole, with a mean score of 4.1738, and median score of 4, and was similarly ranked by both government and industry negotiators when the two groups were analyzed separately (see Research Question Four). While the *Win-Win* strategy is used significantly more than the next closest strategy (significance at the $p=.0001$ level), the following strategies are all close in their mean scores, indicating the negotiators use all of the strategies with varying frequency. In fact, all but the last two ranked strategies (*Surprise* and *Reversal*), show a median score of 3 or above, indicating that 50% of the respondent's use the strategies at least *Sometimes* or more frequently, and the strategies of *Win-Win* and *Statistics* both have a median score of 4, indicating the higher level of use by contract negotiators. The use of the *Statistics* strategy was ranked as the second most often strategy used (mean score = 3.4019, median = 4). This might be the result of the large representation of both government contract negotiators and defense contractors in the sample. The nature of contracting with the United States

Government, with its myriad contractual requirements (Cost Accounting Standards, Cost and Pricing Data, etc.) would require contract negotiators to rely on statistical data in the conducting of contract negotiations on government business.

In summary, it can be concluded that certain negotiation tactics are used by contract negotiators, although not as often as negotiation strategies. Tactics that are confrontational or could be construed as unethical are used very little, but the data indicate that they are used. And finally, of the negotiation strategies offered to the sample, the *Win-Win* strategy is clearly preferred and used more often than any other negotiation strategy.

Research Question Two Conclusions. The second research question was used to determine the distribution of personality types as measured by the Myers-Briggs Type Indicator. The question was designed to return a null hypothesis that the type distribution of the sample would be the same as the general population, represented in this case by the database from the SRI International Values and Lifestyle Program Survey. A descriptive analysis was conducted to determine the type distribution for the sample. Following this descriptive analysis, a statistical analysis using the standard chi-squared (χ^2) statistic to determine if the two groups were from the same population. As a result of the various analyses, the null hypothesis was rejected, and the alternate hypothesis that the sample was not the same as the general population was accepted.

Descriptive Analysis Conclusions. As shown in Table 6 in Chapter IV, 66.1% of the sample population was represented by only four of the possible 16 personality types, ISTJ (24.1%), ISTP (16.1%), ESTP (12.6%), and ESTJ (13.2%). One should note that the prevailing functional pair in those four types is the ST, or *Sensing - Thinking* pair. This is further supported by the over-representation of the *Sensing (S)* types (71.6%), and of the *Thinking (T)* types (91.1%). Of those types least often represented in the sample, ISFJ (0.5%), INFJ (0.5%), ISFP (0.8%), INFP (1.1%),

ESFJ (1.0%), and ENFJ (0.16%), the functional pair IF, or *Introverted - Feeling* is the least represented, accounting for only 2.9% of the sample. However, in light of the drastic under-representation of the *Feeling (F)* type in the sample, it should not be surprising to see an under-representation of any functional pair containing the *Feeling (F)* preference.

If the sample were drawn from the general population, it would be reasonable to expect that the two would be similar in composition. This was clearly not the case. The over- and under-representation of various types from the sample indicate that the population of contract negotiators is clearly different than that of the population in general. One would expect to find, for example, an approximately 70-30 percent split between *Judgment (J)* and *Perception (P)* types in the sample if the sample in fact were drawn from the general population SRI: 4-5). The sample however, showed 47% *Judging (J)* to 53% *Perceiving (P)*.

The *Extraversion (E) - Introversion (I)* dichotomy showed 41.6% *Extraversion (E)* to 58.4% *Introversion (I)*, and the *Sensing (S)* (71.6%) - *Intuition (N)* (28.4%) was similar to the estimates given by Myers in *Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator* (Myers, 1985:35). This approximates the distribution for this dichotomy in the general population. However, when compared to the SRI population, the sample (*Thinking - 91.1%, Feeling 8.9%*) is clearly different from the SRI distribution on the *Thinking (T) - Feeling (F)* dichotomy. One reason for this is the large percentage of female subjects in the SRI population, clearly canted heavily towards the *Feeling (F)* preference. However, there were enough females in the sample population that the *Feeling (F)* types should have been better represented. The data clearly show that only 8.9% of the survey respondents were of the *Feeling (F)* preference, leading to the preliminary conclusion that the sample is significantly different

from the general population. The next section will discuss the statistical analysis and comparison of the sample to the general population.

Statistical Analysis Conclusions. Comparing the sample to the SRI population estimate using the standard chi-squared statistic yielded the conclusion that the difference between the two is statistically significant. When comparing the sample to that of the SRI estimate, a chi-squared value of 246.8564 was received (d.f. = 15) for males, and 536.9558 (d.f. = 15) for females. These values, when compared to the critical test value of 37.70 ($\alpha = .001$) show that the sample is not similar in type distribution to the general population estimate, as personified by the SRI data. (A comparison with the CAPT database shows a chi-squared value of 302.0412 for males, and 247.6875 for females (d.f. = 15), indicating that the sample is significantly different from that estimate also). Therefore, it can be concluded that the sample population is unique, and is not representative of the general population as a whole. When the data were stratified by employer and compared to the SRI estimate, the chi-squared analysis provided the same conclusion: the personality type distribution of strata are significantly different than that of the SRI estimate. A comparison of the strata to each other yielded the conclusion that the two strata are not significantly different from one another in personality type distribution (See Appendix K).

Research Question Three Conclusions. This question was structured to determine the relationship, if one existed, between personality type as measured by the MBTI and preferred negotiation tactics and strategies. The null hypothesis postulated that there are no tactics or strategies that could be statistically related to an individual personality type or preference, with the alternate hypothesis showing that there would be a relationship. By using a paired z - test of hypothesis to compare each functional type (E, I, S, N, T, F, J, P), to the other types (E compared to the other functional preferences, etc.) it was

possible to show that statistically significant differences do occur between personality types. The null hypothesis was rejected.

The number of statistically significant differences between the *Extravert (E)* and *Introvert (I)* numbered eight, with the strata differing on seven tactics and one strategy. Of the tactics that were identified as statistically different, the *Extraverted (E)* negotiators used all of them more often than the *Introverted (I)* negotiators. Only in the use of one strategy (*Patience - Buying Time or Stalling*) did the *Introverted (I)* negotiators use the strategy more often than the *Extraverted (E)* negotiators. The analysis shows that the greatest number of differences between functional type were between the *Sensing (S)* and *Intuitive (N)* types, showing that there were 14 statistically differences between *Sensing (S)* and *Intuitive (N)* types on tactics, and five on strategies. According to the data, it can be concluded that the *Sensing (S)* negotiator uses tactics and strategies less than the *Intuitive (N)* negotiator. This is supported by the fact that of the tactics where the difference between the two groups was statistically significant, on only one tactic did the *Sensing (S)* negotiators use a tactic more often than the *Intuitive (N)* negotiator, that being the *Embarrass Your Opponent* tactic.

The *Thinking (T)* - *Feeling (F)* dichotomy showed 10 differences on negotiation tactics and strategies, seven on tactics and three on strategies. With the exception of the *Escalate to Your Boss* tactic, the *Thinking (T)* negotiators used the tactics shown to statistically different more often than the *Feeling (F)* negotiators, leading to the conclusion that of the tactics where the two strata differ significantly, the *Thinking (T)* negotiators are more likely to use the identified tactics than *Feeling (F)* negotiators. In comparing use of strategies however, the *Feeling (F)* negotiator is more likely to use the *Limits* and *Statistics* strategies than the *Thinking (T)* negotiator. Only on the *Combination - the Big Pot* strategy did the *Thinking (T)* negotiator show a statistical difference with the *Feeling (F)* negotiator.

In the *Judgment (J) - Perception (P)* dichotomy, only four tactics, and no strategies showed a statistical difference between the strata. *Perceiving (P)* negotiators showed a higher frequency of use than the *Judging (J)* negotiators for the four tactics where the groups were shown to be statistically different.

In summary, contract negotiators with the following functional type preferences are more likely to use negotiation tactics and/or strategies than contract negotiators with the dichotomous pairing: *Introversion (I)*, *Intuition (N)*, *Thinking (T)*, and *Perception (P)*.

Research Question Four Conclusions. Research Question Four was structured to identify any differences between the data as stratified by employer. The null hypothesis was that there were no statistical differences between the frequency of use by government contract negotiators versus industry contract negotiators. The alternate hypothesis would indicate that there is a statistically significant difference between the two strata. This research question was answered using both descriptive analysis (ranking of the mean scores by strata), and a statistical analysis using the standard paired *z* - test to determine statistical differences between the strata. The null hypothesis was rejected.

Descriptive Analysis Conclusions. When the data were stratified by employer, the rankings of the mean scores for negotiation tactics showed that industry negotiators clearly use tactics more frequently than their government counterparts. Whether this is due to a difference in training between the two groups, or caused by the rigid conditions under which government contract negotiators must conduct their negotiations is not known, but one can surmise that either scenario is plausible. The tactics used by both groups differed very little for the top seven strategies. The level of use, however, showed that of the top ten ranked negotiation tactics, the industry negotiators used their favorite (or preferred) tactics more often than the government negotiators. The industry negotiators used their top five tactics more frequently than the

government negotiators, however, the bottom five tactics as ranked by the industry group were used less than the government's last five tactics.

When looking at negotiation strategies used most often by the two groups, it can be seen that there is general agreement as to the relative rankings within the two strata as to which negotiation strategies are used more often. However, when looking at the frequency of use as indicated by the mean scores of each strata, in only one case do government contract negotiators use a particular strategy (the *Limits* strategy) more often than their industry counterparts.

The frequency of use by the respective strata on both tactics and strategy leads to the preliminary conclusion that the two strata are significantly different. However, the use of a statistical analysis was conducted to quantify the differences.

Statistical Analysis Conclusions. A paired z - test statistic was used to determine statistically significant differences in the two strata. Twenty out of 33 negotiation tactics and five of eleven negotiation strategies showed a statistically significant difference between government and industry contract negotiators.

The two strata differed on a variety of the tactics, but only on three did the government negotiators indicate more frequent use of tactics; *Appeal to Patriotism*, *Low Ball Offers*, and *Impose No-Smoking Rule*. These three may be viewed as related to the government contracting environment. The *Appeal to Patriotism* tactic does not likely fare well in the industry environment, as civilian firms do not traditionally draw upon nationalistic emotion, whereas the government's foundation is built upon patriotism. *Low-Ball Offers* can be explained as the result of the government seldom being in a position of providing services or goods to the highest bidder. More frequently, the government is soliciting services or goods and seeks the most fair and reasonable price possible. And finally, *Impose No-Smoking Rule* is logical in light of the federal government's ban on smoking in federal government buildings.

On all the remaining statistically different tactics industry negotiators showed a higher frequency of use of negotiation tactics. Those tactics significant at the $\alpha = .001$ level, *Allow Face Saving Exit*, *Appeal to Patriotism*, *Deadlock the Negotiations*, *'Good Guy - Bad Guy' Roles*, *High Ball Offers*, *Low Ball Offers*, *Massage Opponent's Ego*, *Refer to Your Side's Generosity*, and *Split the Difference Offers* all showed a mean score for one (or sometimes both) strata indicating that the tactics are used more than *Seldom* by contract negotiators of one or both strata.

In examining the negotiation strategies where a statistically significant difference was shown, the industry contract negotiators again indicated they use the strategies more often than their government counterparts, with the exception of the *Limits* strategy, which may be traced back to the highly structured world of government contracting. It is interesting to note that the industry negotiators indicated that the *Patience - Buying Time or Stalling* strategy was used more often than the government negotiators. This may be explained with the knowledge that the government contract negotiators typically have a program manager interested in getting the requirement on contract as soon as possible.

In summary, it has been shown that there are statistically significant differences between government and industry contract negotiators in terms of how often certain negotiation tactics and strategies are used, and that some of the differences may be explained by the environment in which the negotiator must function in the performance of his or her day-to-day job. Overall, industry negotiators use both tactics and strategies more often than their government counterparts. The impact of this difference in frequency of use is unknown, and is a candidate for further study.

Research Question Five Conclusions. This question was structured to determine if there were differences between government and industry contract negotiators in any relationships that were established between personality type as measured by the MBTI and how often each strata used certain negotiation tactics and strategies. A null

hypothesis was established that hypothesized no difference existed, such that both government and industry contract negotiators would show the same relationships between personality type and how often certain negotiation tactics and strategies were used. Because there was inadequate representation of all 16 personality types, the data were stratified into the eight functional preference types (E, I, S, N, T, F, J, P), and then further stratified by employer (government versus industry) to conduct the paired z - test.

The null hypothesis was rejected. Results of the tests of hypothesis showed that the government differed significantly on all of the personality types from the industry strata, with the exception of the *Feeling (F)* types. The *Feeling (F)* types showed statistically significant differences on only three tactics and one strategy. This type will be discussed in more detail later in this section.

The *Extraverts (E)* displayed 11 significant differences between the government and industry strata, eight tactics and three strategies. For the eight tactics that differed, the government used three of the eight more often than their industry counterparts: *Low Ball Offers*, *Appeal to Patriotism*, and *Impose No Smoking Rule*. The more frequent use by government negotiators of these tactics are explained in the previous section.

The *Introverts (I)* reflected the largest number of statistically significant differences between the two strata. Government and industry negotiators differed on 21 tactics and five strategies. For the two tactics shown to be statistically different, the government negotiators indicated that they use the particular tactics more often than their industry counterparts (*Appeal to Patriotism* and *Low Ball Offers*). For the negotiation tactics where both strata reported that the frequency of use was low, there were statistically significant differences between the two groups. The two strata differed on five strategies, and again the government negotiators reported a much lower frequency of use than the industry negotiators.

The *Sensing (S)* strata reported 19 statistically significant differences on tactics and six on strategies. In this grouping, a tactic that had not shown a significant difference on any other type appeared, *Negotiate with Limited Authority*. For this particular tactic, government negotiators indicated they used the tactic more than their industry counterparts.

The *Intuitive (I)* scale showed statistically significant differences on eight tactics questions and two strategy questions. Here the government negotiators showed that they were more willing to use tactics and strategies than other government types thus far discussed, using three of eight tactics and one of two strategies more often than their industry counterparts. The one tactic that government negotiators indicated more frequent use was *Refer to Other Side's Past Poor Performance*.

The *Thinking (T)* type grouping showed 19 statistically significant differences on tactics and four on strategy questions. Again, the industry negotiators reported more frequent use for the majority (all but three) of the tactics and strategies than government negotiators. On the strategy questions, industry negotiators indicated that they used all of the strategies showed to be statistically different more often than the government negotiators.

The *Feeling (F)* type grouping showed only four significant differences, three on tactics and one strategy. None of the tactics were used more often by government negotiators, however, the government negotiators did indicate that they used the *Limits* strategy more often than the industry negotiators.

The *Judging (J)* type grouping differed on 11 tactics and five strategies. Like the other groupings, this showed that government negotiators used on the *Appeal to Patriotism* and *Low Ball Offers* tactics and *Limits* strategies more often than the industry negotiators.

Finally, the *Perceiving (P)* type grouping showed differences on eighteen tactics, and three strategies. Like the previous groupings, government negotiators showed more frequent use on only three tactics, and no strategies.

Table 25 presents a summary of the statistically significant differences for all functional type groupings as related to individual negotiation tactics, and Table 26 presents a summary of statistically significant differences for all functional type groupings as related to individual negotiation strategies.

Summary of Research Questions Conclusions. This chapter presented conclusions based upon analysis of the data presented in Chapter IV. From the data, it can be seen that contract negotiators use the identified negotiation tactics and strategies. The most often used tactics are *Allow Face Saving Exit*, *Split the Difference*, *Pick and Choose the Best Deals*, *'Bogey' - Constrained by Budget Limits*, *Refer to Your Side's Generosity*, *Call Frequent Caucuses*, *Belabor Fair and Reasonable*, *Massage Opponent's Ego*, *Refer to the Other Side's Past Poor Performance*, and *Good Guy - Bad Guy Roles*. Conversely, the sample indicated that they did not use other negotiation tactics as often. The least used tactics are *Adjust the thermostat*, *Deliberately Leave Errors in Offers*, *Personal Attack*, *Deliberately Expose Notes or Working Papers*, *Embarrass Your Opponent*, *Change Negotiators*, *Reverse Auctioning*, *Off the Record Discussion*, *Negotiate With Limited Authority*, and *Ask for Excessive Amounts of Data*. Of the negotiation strategies, the sample indicated that all were used more than *Seldom*, and in fact all but two were used more than *Sometimes*. The negotiation strategies most often used are *Win-Win* and *Statistics*, with the least used being *Reversal* and *Surprise*.

In looking at the personality type distribution of contract negotiators, it was found that the negotiators have a unique distribution, heavily favoring the *ST (Sensing-Thinking)* functional grouping, with a marked under-representation of *Feeling (F)* types. This distribution is similar to that found in Johnstone's study (Johnstone, 1986). The

sample was compared to the general population as personified by the SRI database, and found to be statistically different from the general population.

In analyzing the relationship between personality type and frequency of use of negotiation tactics and strategies, it was found that statistical differences exist between the different functional type preferences (E - I, S - N, T - F, J - P).

When analyzing the differences between government and industry negotiators in terms of frequency of use of negotiation tactics and strategies, it was established that industry negotiators used tactics and strategies more often than their government counterparts across the board. Ranking the mean scores of the ten most frequently used tactics and strategies by both strata yielded little significant difference in terms of which tactics were used most often by the two strata. Statistically significant differences were established between government and industry negotiators on 20 out of 33 tactics, and 5 out of eleven strategies, leading to the conclusion that the two groups are not the same in terms of how often each tactic or strategy is used.

It was also found that in every personality functional type grouping (*Extraverts, Introverts, Sensing, Intuitive, Thinking, Feeling, Judging, and Perceiving*) there were statistically significant differences between government and industry contract negotiators on how often particular negotiation tactics and strategies were used, with the largest number of differences in the *Introverts, Sensing, Thinking, and Perceiving* groups.

Summary of Research Objective Conclusions

Overall, the research objectives were satisfied. It was possible to identify what negotiation tactics and strategies are used most often by contract negotiators, and often they are used. What tactics are used and how often they are used was also determined when the data were stratified by employer (government versus industry). It was

SUMMARY OF DIFFERENCES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT NEGOTIATORS IN NEGOTIATION TACTICS AS RELATED TO PERSONALITY TYPE

84

Table 26

SUMMARY OF DIFFERENCES BETWEEN GOVERNMENT AND INDUSTRY CONTRACT NEGOTIATORS IN NEGOTIATION STRATEGIES AS RELATED TO PERSONALITY TYPE

| Level of Significance | |
|-----------------------|------|
| . | .1 |
| .. | .05 |
| ... | .01 |
| | .001 |

| | Combination - The Big Pot | Coverage - Bottom Landing | Define Action | Limits | Participation/Involvement | Patience - Buying Time or Stalling | Surprise | Reversal - The Lesser of Two Evils | Statistics - The Figures Don't Lie | Step-By-Step | Win - Win |
|-------------------|---------------------------|---------------------------|---------------|--------|---------------------------|------------------------------------|----------|------------------------------------|------------------------------------|--------------|-----------|
| Extravert | .. | | | .. | | | | | | | |
| Introvert | ... | | | | | | | * | | * | |
| Sensing | | | | | | | | * | | * | * |
| Intuitive | | * | | | * | | | | | | |
| Thinking | | | | | | | | | | | ** |
| Feeling | | | | * | | | | | | | |
| Judging | .. | | | ** | | * | | | | | ** |
| Perceiving | ... | | | | | ** | | | | | |

determined that contract negotiators differ from the general population in terms of personality type. When the data were stratified by employer, both strata similarly were significantly different from the general population. Finally, it was determined that certain personality functional type groupings differed from their dichotomous partner in terms of how often a particular negotiation tactic or strategy were used. The next chapter will present recommendations for further study.

VI. Recommendations

Overview

The purpose of this research was to determine differences between government and industry contract negotiators in terms of what negotiation tactics and strategies are used, how often they are used, and the relationship of personality type, as measured by the Myers-Briggs Type Indicator, to use of negotiation tactics and strategies. This chapter will present recommendations to various bodies for the use of the information gathered in the course of this research, and in some cases recommendations for future research. Recommendations are provided for the contracting profession in general, the National Contract Management Association (NCMA), government and industry contract negotiators in specific, and finally, the Association for Psychological Testing (APT).

The Contracting Profession

This research established the fact that negotiation tactics and strategies are used by contract negotiators, in both government and industry. The impact of the use of the various tactics and strategies, however, is unknown. A study to examine the relationship between tactic or strategy used and negotiation outcome would provide invaluable information to contract negotiators. It would then be possible to pick appropriate negotiation tactics or strategies that would ensure a more favorable outcome.

National Contract Management Association

The National Contract Management Association has made large inroads into the education of its members in terms of negotiation and the use of tactics and strategies. However, as this research showed, some tactics are used that are clearly not in the best interests of either party in a negotiation, such as *Personal Attack* and *Embarrass Your*

Opponent. While the mean scores indicating frequency of use of the particular tactics were low (less than 2.0), there were individual contract negotiators that indicated that they used the tactic more than Sometimes. This indicates that some NCMA members are choosing to ignore the valuable training provided by NCMA in their educational workshops, or some members did not partake of the training. In any case, it is in the best interests of the NCMA to continue its aggressive stance on education in terms of negotiation. A well educated membership reflects on the organization. We recommend that NCMA consider an annual training workshop on negotiation, and in particular, on the use of negotiation tactics and strategies and the conducting of negotiations.

Government Contracting Organizations

Congressional and Presidential Commissions findings to the contrary, this research found that government contract negotiators, while less experienced than their industry counterparts, are better trained on negotiation. This research also found that government negotiators are likely to use certain negotiation tactics and strategies, in particular those that are government unique, such as *Appeal to Patriotism*, *High Ball* versus *Low Ball* tactics, along with the *Win-Win* and *Statistics* strategies. However, with the exception of a few of the negotiation tactics and strategies that are specific to the government such as those listed above, government negotiators across the board used tactics and strategies less frequently than their industry counterparts. It would benefit government contracting agencies if it were possible to identify what tactics and strategies are effectively used in certain scenarios, and also to identify their impact on final contract settlement. We also strongly recommend that government organizations use the Myers-Briggs Type Indicator in building their negotiation teams. This research established that negotiation tactics and strategies differ between personality functional types. Negotiators will be better off in conducting a negotiation if the negotiator understands what

preferences the person sitting across the table has, and can understand the reasons behind his or her opponent.

Industry Contracting Organizations

Like the previous recommendation to government contracting organizations, we strongly recommend that organizations entering into large negotiations use team-building exercises with the MBTI to enhance their understandings of the *differences* between the people they are likely to deal with. In addition, until this study, the body of knowledge concerning industry contract negotiators was severely lacking in information regarding industry contract negotiators as a population. This research examined the differences between government and industry negotiators, but much more information is necessary to understand the unique relationship that the government and industry organizations have.

Association for Psychological Type or Center for Applications of Psychological Type

In conducting this research, it was necessary to choose an existing database holding MBTI type distributions to which the sample could be compared. It was apparent to the research team that no matter which database was chosen, the Center for Applications of Psychological Type (CAPT), the SRI International Values and Lifestyles Program (VALS) Sample, or one of the Myers samples, each databank holds a measure of bias, and the effects of that bias hold any research liable for criticism. We recommend that the Center for Applications of Psychological Type or the Association of Psychological Type start a new databank, if one has not already been, that will more accurately represent not only the inhabitants of the United States, but of other countries as well.

Recommendations for Future Research

Much data were accumulated in the course of this research. It was not possible in the limited time available to the research team to conduct more in-depth analyses to determine the effects of the either dominant or auxiliary personality type function on use of negotiation tactics or strategies, or the effect of paired functions on use of negotiation tactics or strategies. Also, data reporting the rank-ordering of preferred tactics and strategies was gathered, but not used in this research. It is possible that significant knowledge can be gained in both the contracting and psychological testing professions by conducting analyses of the aforementioned topics.

Summary

This chapter has presented recommendations for various organizations for the use of information gathered in the course of this research, and in some instances offered recommendations for future research.

Appendix A: Definition of Negotiation Tactics and Strategies Used In
This Research

Note: The numbers next to each of the tactics and strategies correspond to the survey question number. Definitions for the various tactics and strategies are those of the researchers, unless otherwise noted.

TACTIC: ANY SPECIFIC ACTION, WORDS, OR GESTURES DESIGNED TO ACHIEVE BOTH AN IMMEDIATE OBJECTIVE (such as countering an action by the other negotiating party) AND THE ULTIMATE OBJECTIVE OF A PARTICULAR STRATEGY (Catlin & Faenza, 1985:7).

(9) *Adjust the thermostat:* Adjust the heating or cooling in the room so as to make one's counterparts uncomfortable.

(10) *Allow face-saving exit:* Allowing a small concession so as to avoid embarrassing the opponent (Karass, 1974:64-66).

(11) *Appeal to patriotism:* Appealing to the opponent for consideration based on the love for country or cause.

(12) *Ask for excessive amounts of data:* Ask for excessive amounts of data to either stall, or intimidate your opponent.

(13) *"Belabor" Fair and Reasonable:* Capitalize on the dissimilar values of your opponent to your benefit (Karass, 1974:66-67).

(14) *"Bogey"—constrained by Budget Limits:* This is all I've got . . . and I can't get any more (Karass, 1974:18).

(15) *Call frequent caucuses:* Adjourn to discuss an item or item with colleagues. Can be used as a stalling tactic (Karass, 1974:31).

(16) *Change negotiators:* Change negotiators in an attempt to throw the other party off balance (Karass, 1974:33).

(17) *Pick and choose the best deals* (Karass, 1974:34-35).

(18) *Deadlock the negotiations:* Purposefully bring the negotiations to a halt in an attempt to maximize your position, or to weaken your opponent's (Karass, 1974:48).

(19) *Deliberately leave errors in offers:* Intentionally try to entrap your opponent by leaving errors favorable to your position in an offer to your opponent (Karass, 1974:52).

(20) *Deliberately expose notes or working papers:* Intentionally leave your notes or working papers in full view of your opponent, with actual or disguised data exposed,

with the intention of strengthening your position, or misleading your opponent (Karass, 1974:104).

(21) *Embarrass your opponent:* Embarrass your opponent for the express purpose of gaining a tactical advantage during the negotiation (Karass, 1974:145-146).

(22) *Escalate to opponent's boss:* Go over your opponent's head in an attempt to resolve a negotiation issue (Karass, 1974:58-62).

(23) *Escalate to your boss:* Defer a negotiation item that your are authorized to deal with, to your boss in an attempt to gain an advantage over your opponent (Karass, 1974:58-62).

(24) *"Good-guy-bad-guy" roles:* Use a team-mate in a role-playing scenario in which one person assume the part of a disagreeable, volatile personality, while you play the agreeable, malleable personality, in an attempt to gain a concession from your opponent (Karass, 1974:79).

(25) *"High-Ball" offers:* Submit a bid or offer that you know is higher than is warranted (Karass, 1974:107-108).

(26) *Impose No-smoking rule:* Prohibit smoking on the premises during a negotiation to gain a psychological advantage over your opponent.

(27) *"Low-Ball" offers:* Submit a bid or offer that you know is lower than is warranted (Karass, 1974:105-107).

(28) *Make an offer they must refuse:* Make an offer to your opponent that you know they are incapable of accepting, regardless of the situation (Karass, 1974:107).

(29) *Massage opponent's ego:* Assume a fawning role in an attempt to play to your opponent's ego, and gain a psychological advantage.

(30) *"Must be on contract by (date)!"*: Place an artificial deadline on your opponent in an attempt to gain an advantage (Karass, 1974:44-47).

(31) *"My plane leaves at (time) o'clock!"*: Place an artificial deadline on your opponent in an attempt to gain an advantage (Karass, 1974:44-47).

(32) *Negotiate with limited authority:* Enter into negotiations with full knowledge that you are not authorized to commit your organization or company to contract (Karass, 1974:96-97).

(33) *"Off-the-record" discussion:* Attempt to discuss negotiation items informally with your opponent with the express intent of using the information against your opponent at a later date (Karass, 1974:134).

(34) Personal attack: Attempt to place your opponent at a psychological disadvantage through use of comments, actions, etc., that reflect on the character or person of your opponent, placing him or her on the defensive (Karass, 1974:145).

(35) Play hard to get: Intentionally delay coming to a resolution (playing coy) with your opponent in an attempt to resolve a conflict in your favor (Karass, 1974:80-81).

(36) Refer to the other side's past poor performance: Attempt to emphasize the opponents poor performance record in an attempt to parlay that record into an advantage.

(37) Refer to your side's generosity: Point out to you opponent the generous offer you have on the table, even if it is really not advantageous for your opponent.

(38) Reverse auctioning: Used by a buyer, it is trying to get competing sellers bidding against each other, offering concessions and lowering prices in a attempt to win a contract (Karass, 1974:178-180).

(39) "Split-the-difference" offers: Splitting the difference, either monetarily, or with other negotiable items, in an attempt to come to contract terms expeditiously (Karass, 1974:200).

(40) "Take-it-or-leave-it": Making a final offer to an opponent with the impression that this is your last offer, knowing that you will not walk away from the negotiation table (Karass, 1974:217-219).

(41) Threaten to walk out: Threaten to break off negotiations, with the express intention of *not* actually leaving the negotiation table, in an attempt to weaken your opponent's position (Karass, 1974:118-119).

STRATEGY: AN ORGANIZED PLAN OR APPROACH TO NEGOTIATIONS FROM AN OVERALL PERSPECTIVE WHICH MAY BE COMPRISED OF ONE OR MORE THAN ONE TACTIC (Catlin & Faenza, 1985:7).

(42) COMBINATION (THE "BIG POT"): Introducing many issues at one time, using "throw-away" points to get major concessions (Karass, 1974:14).

(43) COVERAGE ("BOTTOM-LINING"): Negotiating on total cost/price basis versus item-by-item (NCMA Negotiation Procedures, 198 :V-20).

(44) DEFINITE ACTION ("TESTING THE WATERS"): Taking a definite position forcing the opposition to either accept or reject your position (NCMA Negotiation Procedures, 198 :V-20)

(45) LIMITS: Using authority, time, budget, or other limits to pressure concessions from the opposition (Karass, 1974:11, 96-97, 44-47, 18-20; Nierenberg, 1986:165-166).

(46) PARTICIPATION/INVOLVEMENT: Designing the team composition to narrow or broaden the areas of negotiation (use of experts, for example) (Karass, 1974:77-78; Nierenberg, 1986:167-169).

(47) PATIENCE ("BUYING TIME OR STALLING"): Using delay TACTICS to prolong consideration of an issue or to counter a time limit STRATEGY (Karass, 1974:142-143; Nierenberg, 1986:157).

(48) SURPRISE: Any unexpected action to gain acceptance of a point or obtain concessions from the opposition (Karass, 1974:214-216; Nierenberg, 1986:157-159).

(49) REVERSAL ("THE LESSER OF EVILS"): Presenting increasingly more rigid demands forcing the opposition to accept a lesser (preceding or following) offer--your true objective (Nierenberg, 1986:162-165).

(50) STATISTICS: ("FIGURES DON'T LIE"): Using learning curves, trend analysis, or historical records as the primary support for your position (Karass, 1974:206-207).

(51) STEP-BY-STEP: Presenting a series of acceptable minor points to obtain a major concession; also used to counter "The Bottom Line" STRATEGY (Karass, 1974:121-123; Nierenberg, 1986:175-176).

(52) WIN-WIN: The two parties are best served by working together to identify and solve the problems that hinder reaching agreement (Reck & Long, 1987:1-103; Fuller, 1991:86-88).

Appendix B: Myers-Briggs Type Table

| | | | | |
|--------------------|--------------------|--------------------|--------------------|------------------|
| <i>ISTJ</i> | <i>ISEJ</i> | <i>INEJ</i> | <i>INTJ</i> | <i>E</i> |
| | | | | <i>I</i> |
| | | | | <i>S</i> |
| | | | | <i>N</i> |
| | | | | <i>T</i> |
| | | | | <i>F</i> |
| | | | | <i>J</i> |
| | | | | <i>P</i> |
| <i>ISTP</i> | <i>ISEP</i> | <i>INEP</i> | <i>INTP</i> | <i>IJ</i> |
| | | | | <i>IP</i> |
| | | | | <i>EP</i> |
| | | | | <i>EJ</i> |
| | | | | <i>ST</i> |
| | | | | <i>SF</i> |
| | | | | <i>NF</i> |
| | | | | <i>NT</i> |
| <i>ESTP</i> | <i>ESEP</i> | <i>ENEP</i> | <i>ENTP</i> | <i>SJ</i> |
| | | | | <i>SP</i> |
| | | | | <i>NP</i> |
| | | | | <i>NJ</i> |
| | | | | <i>TJ</i> |
| | | | | <i>TP</i> |
| | | | | <i>FP</i> |
| | | | | <i>FJ</i> |
| <i>ESTJ</i> | <i>ESEJ</i> | <i>ENEJ</i> | <i>ENTJ</i> | <i>IN</i> |
| | | | | <i>EN</i> |
| | | | | <i>IS</i> |
| | | | | <i>ES</i> |

Appendix C: Questionnaire on Negotiation Tactics and Strategies

PART I, Section 1

Negotiating TACTICS and STRATEGIES Questionnaire

General Introduction and Instructions

This portion of the survey is in two parts. PART I, Section 1 requests general information about your age, sex, ethnic background, employer, experience, and education. ***No information about your name, social security number, or other identifying data is requested.*** This data will be used for conducting statistical analysis of the answers you provide to the questions in Sections 2 and 3.

PART I, Sections 2 and 3 contain questions requesting you to indicate how often you use certain negotiating TACTICS and STRATEGIES while negotiating contracts.

*For PART I of this survey, please use the **PURPLE** computer grading sheet marked "AFIT Form 11B, Jan 85" in the lower left-hand corner.*

PART II of the survey is a modified version of the Myers-Briggs Type Indicator questionnaire. This portion of the survey is used to determine your personal tendencies and traits.

*For PART II of this survey, please use the **GREEN** computer grading sheet marked "AFIT Form 11A, Jan 85" in the lower left-hand corner.*

Information gathered in PART II of this survey will be used to determine if a relationship exists between an individual's personality type and his or her preferred negotiation strategies and tactics.

Your participation in this survey is vital to the success of our research, which will provide valuable information to the contracting community. Please take the time to answer the survey completely, and return it using the labeled envelope provided.

Thank you for your time.

JOHN HEBERT, CAPT, USAF
Researcher

ALAN MEADE, GS-12
Researcher

PART I, SECTION 1--GENERAL INFORMATION

Please fill in the number indicating your answers to the following questions:

1. Age:

1. < 25 years old
2. 26-35 years old
3. 36-45 years old
4. 46-55 years old
5. over 55 years old

2. Sex:

1. Male
2. Female

3. Ethnic Group:

1. Caucasian
2. Black
3. Hispanic
4. Oriental
5. Other (please fill in) _____

4. Employer:

1. Federal Government
2. State Government
3. Local Government
4. Private Industry
5. Other (please fill in) _____

5. Total number of years in contracting:

1. 0-5 years
2. 6-10 years
3. 11-15 years
4. 16-25 years
5. over 25 years

6. Please indicate the highest level of formal education you have attained:

1. High School Graduate
2. College, non-baccalaureate degree
3. Bachelor's degree
4. Master's or professional degree (J.D., etc.)
5. Doctorate degree

7. Please indicate the total number of hours of formal training that you have received in negotiation:

1. 0-20 hours
2. 21-40 hours
3. 41-60 hours
4. 61-80 hours
5. over 80 hours

8. In your current position, what percentage of your time is spent in conducting and managing contract negotiations?

1. 75% or more
2. More than 50% and less than 75%
3. More than 25% and less than 50%
4. More than 1% and less than 25%
5. I do not conduct or manage contract negotiations in my present position.

PART I, SECTION 2 --NEGOTIATING TACTICS AND STRATEGIES

DIRECTIONS

The following questions ask you to indicate how often you use the various negotiating TACTICS and STRATEGIES. These TACTICS and STRATEGIES were selected from publications by Chester L. Karras, the National Contract Management Association's Negotiations Procedures and Strategies Training Manual, and other sources. While no two sources agree on all types of TACTICS or STRATEGIES, features of the approaches from these publications were combined. The following definitions are used in this questionnaire and are presented here to aid you in understanding the questions.

TACTIC: ANY SPECIFIC ACTION, WORDS, OR GESTURES DESIGNED TO ACHIEVE BOTH AN IMMEDIATE OBJECTIVE (such as countering an action by the other negotiating party) AND THE ULTIMATE OBJECTIVE OF A PARTICULAR STRATEGY.

STRATEGY: AN ORGANIZED PLAN OR APPROACH TO NEGOTIATIONS FROM AN OVERALL PERSPECTIVE WHICH MAY BE COMPRISED OF ONE OR MORE THAN ONE TACTIC.

No positive or negative connotations have been assigned to the TACTICS and STRATEGIES listed, and no such connotation will be attributed to those who complete this survey.

Please answer the questions by indicating how often (1-never, 2-seldom, 3-sometimes, 4-frequently, or 5-always) you use this particular TACTIC when you negotiate. The number in parentheses corresponds to the question number for your answer sheet, i.e. (1) should be answered in the space provided for answer 1 on the answer sheet, (2) should be answered for number 2, and so on.

(9) Adjust the thermostat: Adjust the heating or cooling in the room so as to make one's counterparts uncomfortable.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(10) Allow face-saving exit: Allowing a small concession so as to avoid embarrassing the opponent.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(11) Appeal to patriotism: Appealing to the opponent for consideration based on the love for country or cause.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(12) Ask for excessive amounts of data: Ask for excessive amounts of data to either stall, or intimidate your opponent.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(13) "Belabor" Fair and Reasonable: Capitalize on the dissimilar values of your opponent to your benefit.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(14) "Bogey"—constrained by Budget Limits: This is all I've got . . . and I can't get any more.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(15) Call frequent caucuses: Adjourn to discuss an item or item with colleagues. Can be used as a stalling tactic.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(16) Change negotiators: Change negotiators in an attempt to throw the other party off balance.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(17) Pick and choose the best deals

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(18) Deadlock the negotiations: Purposefully bring the negotiations to a halt in an attempt to maximize your position, or to weaken your opponent's.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(19) Deliberately leave errors in offers: Intentionally try to entrap your opponent by leaving errors favorable to your position in an offer to your opponent.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(20) Deliberately expose notes or working papers: Intentionally leave your notes or working papers in full view of your opponent, with actual or disguised data exposed, with the intention of strengthening your position, or misleading your opponent.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(21) Embarrass your opponent: Embarrass your opponent for the express purpose of gaining a tactical advantage during the negotiation.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(22) Escalate to opponent's boss: Go over your opponent's head in an attempt to resolve a negotiation issue.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(23) Escalate to your boss: Defer a negotiation item that you are authorized to deal with, to your boss in an attempt to gain an advantage over your opponent.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(24) "Good-guy-bad-guy" roles: Use a team-mate in a role-playing scenario in which one person assume the part of a disagreeable, volatile personality, while you play the agreeable, malleable personality, in an attempt to gain a concession from your opponent.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(25) "High-Ball" offers: Submit a bid or offer that you know is higher than is warranted.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(26) Impose No-smoking rule: Prohibit smoking on the premises during a negotiation to gain a psychological advantage over your opponent.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(27) "Low-Ball" offers: Submit a bid or offer that you know is lower than is warranted.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(28) Make an offer they must refuse: Make an offer to your opponent that you know they are incapable of accepting, regardless of the situation.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(29) Massage opponent's ego: Assume a fawning role in an attempt to play to your opponent's ego, and gain a psychological advantage.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(30) **"Must be on contract by (date)!"**: Place an artificial deadline on your opponent in an attempt to gain an advantage.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(31) **"My plane leaves at (time) o'clock!"**: Place an artificial deadline on your opponent in an attempt to gain an advantage.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(32) **Negotiate with limited authority**: Enter into negotiations with full knowledge that you are not authorized to commit your organization or company to contract.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(33) **"Off-the-record" discussion**: Attempt to discuss negotiation items informally with your opponent with the express intent of using the information against your opponent at a later date.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(34) **Personal attack**: Attempt to place your opponent at a psychological disadvantage through use of comments, actions, etc., that reflect on the character or person of your opponent, placing him or her on the defensive.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(35) **Play hard to get**: Intentionally delay coming to a resolution (playing coy) with your opponent in an attempt to resolve a conflict in your favor.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(36) Refer to the other side's past poor performance: Attempt to emphasize the opponents poor performance record in an attempt to parlay that record into an advantage.

| | | | | |
|--|--|--|--|--|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">4</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div> |

(37) Refer to your side's generosity: Point out to you opponent the generous offer you have on the table, even if it is really not advantageous for your opponent.

| | | | | |
|--|--|--|--|--|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">4</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div> |

(38) Reverse auctioning: Used by a buyer, it is trying to get competing sellers bidding against each other, offering concessions and lowering prices in a attempt to win a contract.

| | | | | |
|--|--|--|--|--|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">4</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div> |

(39) "Split-the-difference" offers: Splitting the difference, either monetarily, or with other negotiable items, in an attempt to come to contract terms expeditiously.

| | | | | |
|--|--|--|--|--|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">4</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div> |

(40) "Take-it-or-leave-it": Making a final offer to an opponent with the impression that this is your last offer, knowing that you will not walk away from the negotiation table.

| | | | | |
|--|--|--|--|--|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">4</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div> |

(41) Threaten to walk out: Threaten to break off negotiations, with the express intention of *not* actually leaving the negotiation table, in an attempt to weaken your opponent's position.

| | | | | |
|--|--|--|--|--|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">4</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div> |

NEGOTIATION TACTICS

- A. Adjust the thermostat
- B. Allow face-saving exit
- C. Appeal to patriotism
- D. Ask for lots of data
- E. "Belabor" fair and reasonable
- F. "Bogey" -- constrained by budget limits
- G. Call frequent caucuses
- H. Change negotiators
- I. Pick and choose the best deals
- J. Deadlock the negotiations
- K. Deliberately leave errors in offers
- L. Deliberately expose notes or working papers
- M. Embarrass your opponent
- N. Escalate to opponent's boss
- O. Escalate to your boss
- P. "Good Guy/Bad Guy" roles
- Q. "High-Ball" offers
- R. Impose a No-Smoking rule
- S. "Low-Ball" offers
- T. Make an offer they must refuse
- U. Massage opponent's ego
- V. "Must be on contract by (date)!"
- W. "My plane leaves at (time)!"
- X. Negotiate with limited authority
- Y. "Off-the-record" discussions
- Z. Personal attack
- AA. Play hard to get
- AB. Refer to the other side's past poor performance
- AC. Refer to your side's generosity
- AD. Reverse auctioning
- AE. "Split the difference" offers
- AF. "Take it or leave it"
- AG. Threaten to walk out

Rank - Ordering Negotiation Tactics.

For this portion of the survey, you will be asked to indicate your preference of your top three and bottom three negotiation tactics in relation to each other. Please fill in the appropriate letter from the list on the facing page in the space provided below for your TOP THREE negotiation tactics.

1. _____
2. _____
3. _____

Please fill in the appropriate letter from the list on the facing page in the space provided below for your BOTTOM THREE negotiation tactics.

1. _____
2. _____
3. _____

PART I, SECTION 3--NEGOTIATION STRATEGY

The questions below are a sample of negotiating STRATEGIES cited by several authors on the subject. Please answer the questions by indicating how often (1-never, 2-seldom, 3-sometimes, 4-frequently, or 5-always) you use this particular STRATEGY when you negotiate. The number in parentheses corresponds to the question number for your answer sheet, i.e. (1) should be answered in the space provided for answer 1 on the answer sheet, (2) should be answered for number 2, and so on.

(42) COMBINATION (THE "BIG POT"): Introducing many issues at one time, using "throw-away" points to get major concessions.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="1"/> | <input type="text" value="2"/> | <input type="text" value="3"/> | <input type="text" value="4"/> | <input type="text" value="5"/> |

(43) COVERAGE ("BOTTOM-LINING"): Negotiating on total cost/price basis versus item-by-item.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="1"/> | <input type="text" value="2"/> | <input type="text" value="3"/> | <input type="text" value="4"/> | <input type="text" value="5"/> |

(44) DEFINITE ACTION ("TESTING THE WATERS"): Taking a definite position forcing the opposition to either accept or reject your position.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="1"/> | <input type="text" value="2"/> | <input type="text" value="3"/> | <input type="text" value="4"/> | <input type="text" value="5"/> |

(45) LIMITS: Using authority, time, budget, or other limits to pressure concessions from the opposition.

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="1"/> | <input type="text" value="2"/> | <input type="text" value="3"/> | <input type="text" value="4"/> | <input type="text" value="5"/> |

(46) PARTICIPATION/INVOLVEMENT: Designing the team composition to narrow or broaden the areas of negotiation (use of experts, for example).

| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="1"/> | <input type="text" value="2"/> | <input type="text" value="3"/> | <input type="text" value="4"/> | <input type="text" value="5"/> |

(47) PATIENCE ("BUYING TIME OR STALLING"): Using delay TACTICS to prolong consideration of an issue or to counter a time limit STRATEGY.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(48) SURPRISE: Any unexpected action to gain acceptance of a point or obtain concessions from the opposition.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(49) REVERSAL ("THE LESSER OF EVILS"): Presenting increasingly more rigid demands forcing the opposition to accept a lesser (preceding or following) offer--your true objective.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(50) STATISTICS: ("FIGURES DON'T LIE"): Using learning curves, trend analysis, or historical records as the primary support for your position.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(51) STEP-BY-STEP: Presenting a series of acceptable minor points to obtain a major concession; also used to counter "The Bottom Line" STRATEGY.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

(52) WIN-WIN: The two parties are best served by working together to identify and solve the problems that hinder reaching agreement.

| | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| NEVER | SELDOM | SOMETIMES | FREQUENTLY | ALWAYS |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

Rank - Ordering Negotiation Strategies

For this portion of the survey, you will be asked to indicate your preference of your top three negotiation strategies in relation to each other. Using the letter code next to each strategy from the previous page, please write the letter code of your three favorite negotiation strategies below.

1. _____
2. _____
3. _____

Using the letter code next to each strategy from the previous page, please write the letter code of your three LEAST favorite negotiation strategies below

1. _____
2. _____
3. _____

END OF PART I.

Please complete PART II, the Myers-Briggs Type Indicator. When you are finished with PART II, please place the questionnaires, AND BOTH ANSWER SHEETS in the stamped, pre-addressed envelope provided, and place in the mail. We would like to take this time to thank you for your participation in this survey, and want you to know that your participation has been very valuable in the gathering of this information that will expand the body of knowledge dealing with Contracting.

Appendix D: Survey Reminder Postcard

Dear NCMA Member,

Recently you received a survey dealing with personality type and preferred negotiation tactics and strategies. If you have already returned it, we want to thank you for your contribution to our research. Results will be submitted for an article in Contract Management magazine sometime this fall. Also, costs permitting, an executive summary will be mailed to all survey respondents later this summer.

If you have not returned the survey, please take the time to do so now. It is vital to our research, and to the broadening of the Contracting body of knowledge. Again, thank you.

| | |
|----------------------------|----------------------|
| JOHN P. HEBERT, CAPT, USAF | ALAN J. MEADE, GS-12 |
| Researcher | Researcher |

Appendix E: Paired Z-Test Results Comparing
Dichotomous Pairs of MBTI Functional Types

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|----|------------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | N | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 | Q20 | Q21 | Q22 |
| 1 | | | | | | | | | | | | | | | | |
| 2 | $\alpha =$ | 0.1 | | | | | | | | | | | | | | |
| 3 | $z =$ | 1.6449 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | E | 261 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | MEAN | | 1.16082 | 3.4406 | 1.9387 | 1.8651 | 2.3608 | 2.9195 | 2.7280 | 1.5364 | 2.9923 | 2.1228 | 1.1992 | 1.3333 | 1.3448 | 2.3755 |
| 8 | STDDEV | | 0.545053 | 0.9289 | 0.9507 | 0.8471 | 1.0527 | 0.9391 | 0.8807 | 0.7362 | 1.1435 | 0.9283 | 0.5249 | 0.6879 | 0.5915 | 0.8162 |
| 9 | MEDIAN | | 1 | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 2 |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | 0.496804 | 1.018072 | 0.624694 | 0.55222 | -0.416 | 3.104761 | 1.845192 | -0.07615 | 0.735224 | 0.95297 | -0.56383 | 1.096955 | 0.120399 | 0.585847 |
| 12 | | | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 13 | | | | | | | | | | | | | | | | |
| 14 | I | 366 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |
| 16 | MEAN | | 1.136344 | 3.360856 | 1.89071 | 1.846995 | 2.42623 | 2.680328 | 2.595628 | 1.540984 | 2.923497 | 2.051913 | 1.224044 | 1.275956 | 1.338798 | 2.336066 |
| 17 | STDDEV | | 0.523145 | 1.0235 | 0.9445 | 0.8560 | 1.0488 | 0.9674 | 0.8916 | 0.7529 | 1.1726 | 0.8975 | 0.5677 | 0.6129 | 0.6537 | 0.8499 |
| 18 | MEDIAN | | 1 | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 2 |
| 19 | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | |
| 21 | S | 449 | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | |
| 23 | MEAN | | 1.1425 | 3.2962 | 1.9042 | 1.8218 | 2.3786 | 2.7416 | 2.6481 | 1.5100 | 2.8575 | 2.0624 | 1.2004 | 1.2405 | 1.3719 | 2.2962 |
| 24 | STDDEV | | 0.532174 | 1.00845 | 0.964645 | 0.847457 | 1.045435 | 0.988811 | 0.904356 | 0.741326 | 1.18668 | 0.90664 | 0.538599 | 0.570914 | 0.659556 | 0.855136 |
| 25 | MEDIAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 26 | | | | | | | | | | | | | | | | |
| 27 | | | -0.43196 | -4.23308 | -0.2789 | -1.91027 | -1.23868 | -1.65894 | -0.11986 | -1.54174 | -3.43937 | -0.82336 | -0.9307 | -3.31767 | 2.126373 | -2.81798 |
| 28 | | | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | TRUE | FALSE | FALSE | TRUE | TRUE | TRUE |
| 29 | | | | | | | | | | | | | | | | |
| 30 | N | 178 | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | |
| 32 | MEAN | | 1.1629 | 3.6404 | 1.9270 | 1.9663 | 2.4944 | 2.8764 | 2.6573 | 1.6124 | 3.1910 | 2.1292 | 1.2472 | 1.4494 | 1.2640 | 2.4944 |
| 33 | STDDEV | | 0.5330 | 0.8797 | 0.9021 | 0.8563 | 1.0590 | 0.8871 | 0.8507 | 0.7526 | 1.0563 | 0.9207 | 0.5780 | 0.7593 | 0.5346 | 0.7684 |
| 34 | MEDIAN | | 1 | 4 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 3 |
| 35 | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | |
| 37 | T | 571 | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | |
| 39 | MEAN | | 1.1454 | 3.3835 | 1.9124 | 1.8722 | 2.4291 | 2.7708 | 2.6620 | 1.5447 | 2.9597 | 2.0858 | 1.2119 | 1.3030 | 1.3555 | 2.3468 |
| 40 | STDDEV | | 0.5280 | 0.9938 | 0.9456 | 0.8540 | 1.0495 | 0.9688 | 0.8843 | 0.7441 | 1.1638 | 0.9127 | 0.5547 | 0.6443 | 0.6446 | 0.8370 |
| 41 | MEDIAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Q23 | Q24 | Q25 | Q26 | Q27 | Q28 | Q29 | Q30 | Q31 | Q32 | Q33 | Q34 | Q35 | Q36 | Q37 | Q38 | Q39 |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | 2.1916 | 2.4100 | 2.0480 | 2.1228 | 2.0115 | 2.0805 | 2.4828 | 2.4253 | 1.9080 | 1.8123 | 1.7280 | 1.3027 | 2.1341 | 2.3448 | 2.8628 | 1.5558 | 3.1228 |
| 8 | 0.9124 | 1.0880 | 1.0588 | 1.7053 | 1.1111 | 0.9309 | 1.0137 | 1.0337 | 0.9380 | 1.0738 | 1.0446 | 0.8358 | 0.9163 | 1.0615 | 1.0083 | 0.9332 | 0.9074 |
| 9 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 3 |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | 1.245237 | 0.983743 | 1.58324 | 0.138348 | -0.80083 | 1.811708 | 1.658922 | 2.281342 | 0.192191 | 1.161888 | 0.742022 | 1.846885 | 0.14947 | -0.8999 | -0.90855 | -0.4165 | 0.819208 |
| 12 | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | TRUE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | 2.098381 | 2.325137 | 1.912588 | 2.103825 | 2.065574 | 1.939891 | 2.346895 | 2.237705 | 1.893443 | 1.713115 | 1.668687 | 1.213115 | 2.122851 | 2.404372 | 2.737705 | 1.587432 | 3.062842 |
| 17 | 0.9399 | 1.0577 | 1.0458 | 1.6929 | 1.1109 | 0.9841 | 1.0081 | 0.9880 | 0.9405 | 1.0242 | 0.9839 | 0.5424 | 0.9267 | 1.0339 | 1.0348 | 0.9605 | 0.8907 |
| 18 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 3 |
| 19 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | 2.1180 | 2.2940 | 1.9287 | 2.0913 | 2.0111 | 1.9888 | 2.3853 | 2.2984 | 1.8775 | 1.6704 | 1.6147 | 1.2472 | 2.0688 | 2.3229 | 2.6949 | 1.5011 | 3.1136 |
| 24 | 0.941057 | 1.0788 | 1.084587 | 1.889039 | 1.108943 | 0.972754 | 0.989149 | 1.030788 | 0.95228 | 0.978528 | 0.95705 | 0.577788 | 0.925815 | 1.05027 | 1.038541 | 0.904189 | 0.90535 |
| 25 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 26 | | | | | | | | | | | | | | | | | |
| 27 | -0.83484 | -2.57705 | -1.51875 | -0.47673 | -1.13878 | -0.48384 | -0.70072 | -0.70377 | -0.95812 | -2.97023 | -2.88485 | -0.21289 | -2.67289 | -2.18884 | -0.48274 | -2.91214 | 1.162853 |
| 28 | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | TRUE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | |
| 32 | 2.1854 | 2.5281 | 2.0674 | 2.1629 | 2.1236 | 2.0281 | 2.4494 | 2.3586 | 1.9551 | 1.9663 | 1.8876 | 1.2584 | 2.2809 | 2.5225 | 2.7360 | 1.7584 | 3.0225 |
| 33 | 0.8985 | 1.0038 | 1.0173 | 1.6946 | 1.1181 | 0.9651 | 1.0470 | 0.9596 | 0.9008 | 1.1784 | 1.1092 | 0.6018 | 0.8955 | 1.0207 | 0.9875 | 1.0323 | 0.8763 |
| 34 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 1 | 3 |
| 35 | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | |
| 39 | 2.1103 | 2.3680 | 1.9885 | 2.1401 | 2.0595 | 2.0105 | 2.4256 | 2.3257 | 1.9089 | 1.7688 | 1.6970 | 1.2609 | 2.1454 | 2.4168 | 2.7233 | 1.5837 | 3.0841 |
| 40 | 0.9291 | 1.0517 | 1.0658 | 1.7089 | 1.1145 | 0.9822 | 1.0205 | 1.0152 | 0.9359 | 1.0874 | 1.0075 | 0.5984 | 0.9281 | 1.0503 | 1.0279 | 0.9695 | 0.9041 |
| 41 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |

| | AN | AJ | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1 | Q40 | Q41 | Q42 | Q43 | Q44 | Q45 | Q46 | Q47 | Q48 | Q49 | Q50 | Q51 | Q52 |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | 2.3142 | 1.9310 | 2.9923 | 3.2299 | 2.8986 | 2.8199 | 3.2452 | 2.4483 | 2.2299 | 2.2682 | 3.3716 | 3.0958 | 4.1341 |
| 8 | 0.9732 | 0.8598 | 0.8726 | 0.9810 | 0.8417 | 0.8999 | 1.0234 | 0.8516 | 0.8731 | 0.8928 | 0.9708 | 0.8998 | 1.0082 |
| 9 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 4 |
| 10 | | | | | | | | | | | | | |
| 11 | 1.65211 | 0.741506 | 0.529785 | -0.76434 | 0.824083 | 0.771457 | -1.12771 | -2.20893 | -1.45662 | 0.114631 | -0.63811 | 0.080401 | -0.86205 |
| 12 | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | 2.188525 | 1.879781 | 2.953552 | 3.289817 | 2.838798 | 2.765027 | 3.338798 | 2.612022 | 2.338098 | 2.259563 | 3.423497 | 3.080184 | 4.202188 |
| 17 | 0.8883 | 0.8484 | 0.9454 | 0.9411 | 0.8967 | 0.8681 | 1.0257 | 0.9971 | 0.9358 | 0.9797 | 1.0538 | 0.8537 | 0.9281 |
| 18 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 3 | 4 |
| 19 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | |
| 23 | 2.2116 | 1.8641 | 2.9243 | 3.2673 | 2.8174 | 2.7216 | 3.2739 | 2.4900 | 2.2808 | 2.2180 | 3.3764 | 3.0824 | 4.1715 |
| 24 | 0.917221 | 0.848729 | 0.839482 | 0.975056 | 0.910044 | 0.906574 | 1.047217 | 0.975372 | 0.945516 | 0.893676 | 1.047307 | 0.850753 | 0.930384 |
| 25 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 |
| 26 | | | | | | | | | | | | | |
| 27 | -1.24021 | -1.72528 | -2.07301 | 0.106978 | -2.23333 | -3.2626 | -1.04044 | -2.43444 | -1.457 | -2.06692 | -1.04035 | -1.37551 | -0.0928 |
| 28 | FALSE | TRUE | TRUE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE |
| 29 | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | |
| 32 | 2.3146 | 1.9844 | 3.0843 | 3.2584 | 2.9775 | 2.8551 | 3.3852 | 2.6798 | 2.3708 | 2.3820 | 3.4663 | 3.1685 | 4.1788 |
| 33 | 0.9459 | 0.8537 | 0.8428 | 0.9148 | 0.7662 | 0.7652 | 0.9883 | 0.8395 | 0.8149 | 0.8831 | 0.9457 | 0.8798 | 1.0367 |
| 34 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 3 | 4 |
| 35 | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | |
| 39 | 2.2434 | 1.9072 | 2.9912 | 3.2785 | 2.8569 | 2.7653 | 3.3085 | 2.5552 | 2.3030 | 2.2732 | 3.4273 | 3.0863 | 4.1874 |
| 40 | 0.9207 | 0.8503 | 0.9167 | 0.9558 | 0.8873 | 0.8831 | 1.0271 | 0.9542 | 0.9144 | 0.9435 | 0.9863 | 0.8457 | 0.9243 |
| 41 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|----|----------|-----|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 42 | | | | | | | | | | | | | | | | |
| 43 | -0.41509 | | | -0.82027 | 0.144656 | 0.894044 | 1.346057 | -0.82631 | 0.970517 | 0.59671 | 0.534321 | 0.396571 | -0.28363 | 0.444573 | 2.652369 | -0.55207 |
| 44 | FALSE | | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE |
| 45 | | | | | | | | | | | | | | | | |
| 46 | F | | | | | | | | | | | | | | | |
| 47 | | 56 | | | | | | | | | | | | | | |
| 48 | MEAN | | | 3.5 | 1.662857 | 1.767857 | 2.232143 | 2.875 | 2.535714 | 1.482143 | 2.875 | 2.035714 | 1.232143 | 1.267857 | 1.198429 | 2.410714 |
| 49 | STDEV | | | 0.5755 | 0.8844 | 0.9683 | 0.8310 | 1.0443 | 0.8657 | 0.8336 | 0.7626 | 1.1262 | 0.8637 | 0.5042 | 0.4009 | 0.8263 |
| 50 | MEDIAN | | | 1.0000 | 4.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 3.0000 |
| 51 | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | |
| 53 | J | 286 | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | |
| 55 | MEAN | | | 1.162712 | 3.298305 | 1.976271 | 1.884746 | 2.410169 | 2.810169 | 1.535563 | 2.949153 | 2.044068 | 1.189831 | 1.257627 | 1.356322 | 2.328814 |
| 56 | STDEV | | | 0.5720 | 0.9789 | 0.9704 | 0.8533 | 1.0091 | 0.9572 | 0.8501 | 0.7270 | 1.0915 | 0.8853 | 0.5130 | 0.5980 | 0.8312 |
| 57 | MEDIAN | | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 58 | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | |
| 61 | | | | | | | | | | | | | | | | |
| 62 | P | 332 | | | | | | | | | | | | | | |
| 63 | | | | | | | | | | | | | | | | |
| 64 | MEAN | | | 1.1355 | 3.4769 | 1.8524 | 1.8434 | 2.4127 | 2.7530 | 2.6857 | 1.5422 | 2.8548 | 2.1145 | 1.2349 | 1.3253 | 2.3735 |
| 65 | STDEV | | | 0.4944 | 0.9846 | 0.9226 | 0.8513 | 1.0861 | 0.9674 | 0.9228 | 0.7624 | 1.2196 | 0.9322 | 0.5908 | 0.6142 | 0.8402 |
| 66 | MEDIAN | | | 1 | 4 | 2 | 2 | 2 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 2 |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 42 | -2.40063 | 0.36321 | 0.032235 | 1.434637 | 1.234538 | 1.142483 | 1.941852 | 0.819407 | 0.784433 | 1.42786 | 0.374787 | 1.98525 | 1.674186 | 3.206382 | 1.371326 | 2.20876 | -0.34835 |
| 43 | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE |
| 44 | | | | | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | |
| 47 | 2.110714 | 2.303571 | 1.864286 | 1.821428 | 1.875 | 1.875 | 2.178571 | 2.214286 | 1.803571 | 1.607143 | 1.642857 | 1.142857 | 1.948429 | 2 | 2.535714 | 1.375 | 3.125 |
| 48 | 0.8889 | 1.1743 | 0.9138 | 1.5737 | 1.0828 | 0.8328 | 0.8688 | 0.9870 | 0.9814 | 0.7788 | 1.0345 | 0.4013 | 0.8403 | 0.9145 | 0.9717 | 0.6759 | 0.8326 |
| 49 | 2.5000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.5000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 50 | | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | |
| 55 | 2.145763 | 2.240678 | 1.864915 | 2.105085 | 2.057627 | 1.988482 | 2.410169 | 2.294915 | 1.915254 | 1.728814 | 1.60678 | 1.233888 | 2.101685 | 2.388831 | 2.789492 | 1.535563 | 3.101685 |
| 56 | 0.9561 | 1.0267 | 1.0164 | 1.6941 | 1.1219 | 0.9561 | 0.9807 | 0.9855 | 0.9201 | 1.0174 | 0.9265 | 0.5308 | 0.9128 | 1.0138 | 0.9803 | 0.9081 | 0.8580 |
| 57 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 58 | | | | | | | | | | | | | | | | | |
| 59 | 0.217862 | -2.68252 | -1.6486 | -0.09118 | 0.308049 | -0.70444 | 0.156128 | -0.48804 | 0.368528 | -0.5788 | -2.01958 | -0.67282 | -0.68384 | 0.232007 | 1.457888 | -0.98437 | 0.368074 |
| 60 | FALSE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 61 | | | | | | | | | | | | | | | | | |
| 62 | | | | | | | | | | | | | | | | | |
| 63 | | | | | | | | | | | | | | | | | |
| 64 | 2.1285 | 2.4689 | 2.0331 | 2.1175 | 2.0301 | 2.0241 | 2.3876 | 2.3343 | 1.8855 | 1.7771 | 1.7681 | 1.2651 | 2.1508 | 2.3705 | 2.6508 | 1.6084 | 3.0753 |
| 65 | 0.9056 | 1.0838 | 1.0808 | 1.7016 | 1.1016 | 0.9829 | 1.0568 | 1.0252 | 0.9546 | 1.0708 | 1.0731 | 0.6283 | 0.8303 | 1.0735 | 1.0508 | 0.9849 | 0.9314 |
| 66 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 3 |

| | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 42 | 0.212398 | 0.558863 | 1.952234 | 1.127532 | -0.31957 | -2.3628 | 0.525331 | 1.102277 | 1.010054 | 0.846782 | 1.700281 | 0.308678 | 0.885751 |
| 43 | FALSE | FALSE | TRUE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE |
| 44 | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | |
| 48 | 2.214286 | 1.836286 | 2.75 | 3.125 | 2.862857 | 3.017857 | 3.232143 | 2.428571 | 2.178571 | 2.180714 | 3.142857 | 3.063571 | 4.035714 |
| 49 | 0.9856 | 0.8682 | 0.8790 | 0.9735 | 0.7306 | 0.7505 | 1.0089 | 0.6058 | 0.8761 | 0.9482 | 1.2125 | 0.9985 | 1.2787 |
| 50 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 4.0000 |
| 51 | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | |
| 55 | 2.305085 | 1.911864 | 2.928814 | 3.291525 | 2.837288 | 2.749153 | 3.305085 | 2.542373 | 2.284815 | 2.223729 | 3.471186 | 3.118644 | 4.179861 |
| 56 | 0.9120 | 0.8488 | 0.8797 | 0.9348 | 0.8810 | 0.8872 | 0.9875 | 0.9534 | 0.9172 | 0.9170 | 0.9889 | 0.8347 | 0.8850 |
| 57 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 |
| 58 | | | | | | | | | | | | | |
| 59 | 1.042768 | 0.297857 | -1.05891 | 0.681372 | -0.68915 | -1.04356 | 0.121041 | -0.03718 | 0.078884 | -0.98918 | 1.610858 | 0.718765 | 0.143858 |
| 60 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 61 | | | | | | | | | | | | | |
| 62 | | | | | | | | | | | | | |
| 63 | | | | | | | | | | | | | |
| 64 | 2.1837 | 1.8916 | 3.0080 | 3.2410 | 2.8855 | 2.8223 | 3.2952 | 2.5452 | 2.2882 | 2.2882 | 3.3404 | 3.0883 | 4.1687 |
| 65 | 0.9357 | 0.8552 | 0.9456 | 0.9782 | 0.8685 | 0.8630 | 1.0502 | 0.9333 | 0.9069 | 0.9669 | 1.0437 | 0.8819 | 1.0173 |
| 66 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 4 |

Appendix F: Frequency Distribution for Survey Responses

STATISTIX 4.0

FINALDAT, 08/20/92, 0:03

FREQUENCY DISTRIBUTION OF Q1

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 1 | 6 | 1.0 | 6 | 1.0 |
| 2 | 119 | 19.0 | 125 | 19.9 |
| 3 | 257 | 41.0 | 382 | 60.9 |
| 4 | 146 | 23.3 | 528 | 84.2 |
| 5 | 99 | 15.8 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q2

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 1 | 418 | 66.7 | 418 | 66.7 |
| 2 | 209 | 33.3 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q3

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 1 | 585 | 93.3 | 585 | 93.3 |
| 2 | 15 | 2.4 | 600 | 95.7 |
| 3 | 14 | 2.2 | 614 | 97.9 |
| 4 | 3 | 0.5 | 617 | 98.4 |
| 5 | 10 | 1.6 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q4

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 1 | 215 | 34.3 | 215 | 34.3 |
| 2 | 10 | 1.6 | 225 | 35.9 |
| 3 | 6 | 1.0 | 231 | 36.8 |
| 4 | 357 | 56.9 | 588 | 93.8 |
| 5 | 39 | 6.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q5

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 1 | 91 | 14.5 | 91 | 14.5 |
| 2 | 166 | 26.5 | 257 | 41.0 |
| 3 | 141 | 22.5 | 398 | 63.5 |
| 4 | 148 | 23.6 | 546 | 87.1 |
| 5 | 81 | 12.9 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q6

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 3 | 0.5 | 3 | 0.5 |
| 1 | 23 | 3.7 | 26 | 4.1 |
| 2 | 76 | 12.1 | 102 | 16.3 |
| 3 | 239 | 38.1 | 341 | 54.4 |
| 4 | 272 | 43.4 | 613 | 97.8 |
| 5 | 14 | 2.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q7

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 2 | 0.3 | 2 | 0.3 |
| 1 | 181 | 28.9 | 183 | 29.2 |
| 2 | 111 | 17.7 | 294 | 46.9 |
| 3 | 100 | 15.9 | 394 | 62.8 |
| 4 | 52 | 8.3 | 446 | 71.1 |
| 5 | 181 | 28.9 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q8

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 2 | 0.3 | 2 | 0.3 |
| 1 | 29 | 4.6 | 31 | 4.9 |
| 2 | 60 | 9.6 | 91 | 14.5 |
| 3 | 135 | 21.5 | 226 | 36.0 |
| 4 | 288 | 45.9 | 514 | 82.0 |
| 5 | 113 | 18.0 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q9

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 4 | 0.6 | 4 | 0.6 |
| 1 | 560 | 89.3 | 564 | 90.0 |
| 2 | 38 | 6.1 | 602 | 96.0 |
| 3 | 18 | 2.9 | 620 | 98.9 |
| 4 | 5 | 0.8 | 625 | 99.7 |
| 5 | 2 | 0.3 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q10

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 5 | 0.8 | 5 | 0.8 |
| 1 | 27 | 4.3 | 32 | 5.1 |
| 2 | 51 | 8.1 | 83 | 13.2 |
| 3 | 244 | 38.9 | 327 | 52.2 |
| 4 | 233 | 37.2 | 560 | 89.3 |
| 5 | 67 | 10.7 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q11

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 8 | 1.3 | 8 | 1.3 |
| 1 | 247 | 39.4 | 255 | 40.7 |
| 2 | 202 | 32.2 | 457 | 72.9 |
| 3 | 136 | 21.7 | 593 | 94.6 |
| 4 | 31 | 4.9 | 624 | 99.5 |
| 5 | 3 | 0.5 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q12

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 7 | 1.1 | 7 | 1.1 |
| 1 | 237 | 37.8 | 244 | 38.9 |
| 2 | 235 | 37.5 | 479 | 76.4 |
| 3 | 132 | 21.1 | 611 | 97.4 |
| 4 | 15 | 2.4 | 626 | 99.8 |
| 5 | 1 | 0.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q13

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 13 | 2.1 | 13 | 2.1 |
| 1 | 122 | 19.5 | 135 | 21.5 |
| 2 | 188 | 30.0 | 323 | 51.5 |
| 3 | 208 | 33.2 | 531 | 84.7 |
| 4 | 90 | 14.4 | 621 | 99.0 |
| 5 | 6 | 1.0 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q14

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 5 | 0.8 | 5 | 0.8 |
| 1 | 65 | 10.4 | 70 | 11.2 |
| 2 | 139 | 22.2 | 209 | 33.3 |
| 3 | 282 | 45.0 | 491 | 78.3 |
| 4 | 126 | 20.1 | 617 | 98.4 |
| 5 | 10 | 1.6 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q15

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 47 | 7.5 | 53 | 8.5 |
| 2 | 207 | 33.0 | 260 | 41.5 |
| 3 | 278 | 44.3 | 538 | 85.8 |
| 4 | 78 | 12.4 | 616 | 98.2 |
| 5 | 11 | 1.8 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q16

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 14 | 2.2 | 14 | 2.2 |
| 1 | 333 | 53.1 | 347 | 55.3 |
| 2 | 217 | 34.6 | 564 | 90.0 |
| 3 | 55 | 8.8 | 619 | 98.7 |
| 4 | 7 | 1.1 | 626 | 99.8 |
| 5 | 1 | 0.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q17

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 13 | 2.1 | 13 | 2.1 |
| 1 | 67 | 10.7 | 80 | 12.8 |
| 2 | 111 | 17.7 | 191 | 30.5 |
| 3 | 229 | 36.5 | 420 | 67.0 |
| 4 | 160 | 25.5 | 580 | 92.5 |
| 5 | 47 | 7.5 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q18

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 184 | 29.3 | 190 | 30.3 |
| 2 | 224 | 35.7 | 414 | 66.0 |
| 3 | 179 | 28.5 | 593 | 94.6 |
| 4 | 34 | 5.4 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q19

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 5 | 0.8 | 5 | 0.8 |
| 1 | 512 | 81.7 | 517 | 82.5 |
| 2 | 87 | 13.9 | 604 | 96.3 |
| 3 | 19 | 3.0 | 623 | 99.4 |
| 4 | 2 | 0.3 | 625 | 99.7 |
| 5 | 2 | 0.3 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q20

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 4 | 0.6 | 4 | 0.6 |
| 1 | 481 | 76.7 | 485 | 77.4 |
| 2 | 99 | 15.8 | 584 | 93.1 |
| 3 | 36 | 5.7 | 620 | 98.9 |
| 4 | 7 | 1.1 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q21

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 5 | 0.8 | 5 | 0.8 |
| 1 | 446 | 71.1 | 451 | 71.9 |
| 2 | 137 | 21.9 | 588 | 93.8 |
| 3 | 36 | 5.7 | 624 | 99.5 |
| 4 | 2 | 0.3 | 626 | 99.8 |
| 5 | 1 | 0.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q22

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 90 | 14.4 | 96 | 15.3 |
| 2 | 244 | 38.9 | 340 | 54.2 |
| 3 | 254 | 40.5 | 594 | 94.7 |
| 4 | 30 | 4.8 | 624 | 99.5 |
| 5 | 3 | 0.5 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q23

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 12 | 1.9 | 12 | 1.9 |
| 1 | 156 | 24.9 | 168 | 26.8 |
| 2 | 232 | 37.0 | 400 | 63.8 |
| 3 | 190 | 30.3 | 590 | 94.1 |
| 4 | 35 | 5.6 | 625 | 99.7 |
| 5 | 2 | 0.3 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q24

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 154 | 24.6 | 160 | 25.5 |
| 2 | 174 | 27.8 | 334 | 53.3 |
| 3 | 204 | 32.5 | 538 | 85.8 |
| 4 | 79 | 12.6 | 617 | 98.4 |
| 5 | 10 | 1.6 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q25

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 13 | 2.1 | 13 | 2.1 |
| 1 | 253 | 40.4 | 266 | 42.4 |
| 2 | 164 | 26.2 | 430 | 68.6 |
| 3 | 138 | 22.0 | 568 | 90.6 |
| 4 | 56 | 8.9 | 624 | 99.5 |
| 5 | 3 | 0.5 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q26

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 20 | 3.2 | 20 | 3.2 |
| 1 | 378 | 60.3 | 398 | 63.5 |
| 2 | 40 | 6.4 | 438 | 69.9 |
| 3 | 23 | 3.7 | 461 | 73.5 |
| 4 | 33 | 5.3 | 494 | 78.8 |
| 5 | 133 | 21.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q27

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 13 | 2.1 | 13 | 2.1 |
| 1 | 247 | 39.4 | 260 | 41.5 |
| 2 | 144 | 23.0 | 404 | 64.4 |
| 3 | 156 | 24.9 | 560 | 89.3 |
| 4 | 57 | 9.1 | 617 | 98.4 |
| 5 | 10 | 1.6 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q28

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 9 | 1.4 | 9 | 1.4 |
| 1 | 214 | 34.1 | 223 | 35.6 |
| 2 | 218 | 34.8 | 441 | 70.3 |
| 3 | 150 | 23.9 | 591 | 94.3 |
| 4 | 27 | 4.3 | 618 | 98.6 |
| 5 | 9 | 1.4 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q29

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 7 | 1.1 | 7 | 1.1 |
| 1 | 128 | 20.4 | 135 | 21.5 |
| 2 | 184 | 29.3 | 319 | 50.9 |
| 3 | 230 | 36.7 | 549 | 87.6 |
| 4 | 69 | 11.0 | 618 | 98.6 |
| 5 | 9 | 1.4 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q30

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 5 | 0.8 | 5 | 0.8 |
| 1 | 163 | 26.0 | 168 | 26.8 |
| 2 | 160 | 25.5 | 328 | 52.3 |
| 3 | 229 | 36.5 | 557 | 88.8 |
| 4 | 68 | 10.8 | 625 | 99.7 |
| 5 | 2 | 0.3 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q31

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 10 | 1.6 | 10 | 1.6 |
| 1 | 251 | 40.0 | 261 | 41.6 |
| 2 | 187 | 29.8 | 448 | 71.5 |
| 3 | 150 | 23.9 | 598 | 95.4 |
| 4 | 29 | 4.6 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q32

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 339 | 54.1 | 345 | 55.0 |
| 2 | 150 | 23.9 | 495 | 78.9 |
| 3 | 83 | 13.2 | 578 | 92.2 |
| 4 | 33 | 5.3 | 611 | 97.4 |
| 5 | 16 | 2.6 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q33

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 11 | 1.8 | 11 | 1.8 |
| 1 | 359 | 57.3 | 370 | 59.0 |
| 2 | 116 | 18.5 | 486 | 77.5 |
| 3 | 100 | 15.9 | 586 | 93.5 |
| 4 | 35 | 5.6 | 621 | 99.0 |
| 5 | 6 | 1.0 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q34

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 7 | 1.1 | 7 | 1.1 |
| 1 | 492 | 78.5 | 499 | 79.6 |
| 2 | 96 | 15.3 | 595 | 94.9 |
| 3 | 29 | 4.6 | 624 | 99.5 |
| 4 | 2 | 0.3 | 626 | 99.8 |
| 5 | 1 | 0.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q35

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 8 | 1.3 | 8 | 1.3 |
| 1 | 172 | 27.4 | 180 | 28.7 |
| 2 | 214 | 34.1 | 394 | 62.8 |
| 3 | 198 | 31.6 | 592 | 94.4 |
| 4 | 35 | 5.6 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q36

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 13 | 2.1 | 13 | 2.1 |
| 1 | 125 | 19.9 | 138 | 22.0 |
| 2 | 193 | 30.8 | 331 | 52.8 |
| 3 | 214 | 34.1 | 545 | 86.9 |
| 4 | 71 | 11.3 | 616 | 98.2 |
| 5 | 11 | 1.8 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q37

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 8 | 1.3 | 8 | 1.3 |
| 1 | 76 | 12.1 | 84 | 13.4 |
| 2 | 156 | 24.9 | 240 | 38.3 |
| 3 | 254 | 40.5 | 494 | 78.8 |
| 4 | 118 | 18.8 | 612 | 97.6 |
| 5 | 15 | 2.4 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q38

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 15 | 2.4 | 15 | 2.4 |
| 1 | 387 | 61.7 | 402 | 64.1 |
| 2 | 112 | 17.9 | 514 | 82.0 |
| 3 | 79 | 12.6 | 593 | 94.6 |
| 4 | 31 | 4.9 | 624 | 99.5 |
| 5 | 3 | 0.5 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q39

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 5 | 0.8 | 5 | 0.8 |
| 1 | 30 | 4.8 | 35 | 5.6 |
| 2 | 96 | 15.3 | 131 | 20.9 |
| 3 | 281 | 44.8 | 412 | 65.7 |
| 4 | 204 | 32.5 | 616 | 98.2 |
| 5 | 11 | 1.8 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q40

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 140 | 22.3 | 146 | 23.3 |
| 2 | 229 | 36.5 | 375 | 59.8 |
| 3 | 203 | 32.4 | 578 | 92.2 |
| 4 | 47 | 7.5 | 625 | 99.7 |
| 5 | 2 | 0.3 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q41

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 4 | 0.6 | 4 | 0.6 |
| 1 | 231 | 36.8 | 235 | 37.5 |
| 2 | 232 | 37.0 | 467 | 74.5 |
| 3 | 144 | 23.0 | 611 | 97.4 |
| 4 | 15 | 2.4 | 626 | 99.8 |
| 5 | 1 | 0.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q42

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 3 | 0.5 | 3 | 0.5 |
| 1 | 41 | 6.5 | 44 | 7.0 |
| 2 | 112 | 17.9 | 156 | 24.9 |
| 3 | 306 | 48.8 | 462 | 73.7 |
| 4 | 146 | 23.3 | 608 | 97.0 |
| 5 | 19 | 3.0 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q43

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 4 | 0.6 | 4 | 0.6 |
| 1 | 26 | 4.1 | 30 | 4.8 |
| 2 | 87 | 13.9 | 117 | 18.7 |
| 3 | 230 | 36.7 | 347 | 55.3 |
| 4 | 243 | 38.8 | 590 | 94.1 |
| 5 | 37 | 5.9 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q44

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 5 | 0.8 | 5 | 0.8 |
| 1 | 35 | 5.6 | 40 | 6.4 |
| 2 | 139 | 22.2 | 179 | 28.5 |
| 3 | 324 | 51.7 | 503 | 80.2 |
| 4 | 110 | 17.5 | 613 | 97.8 |
| 5 | 14 | 2.2 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q45

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 32 | 5.1 | 38 | 6.1 |
| 2 | 177 | 28.2 | 215 | 34.3 |
| 3 | 297 | 47.4 | 512 | 81.7 |
| 4 | 104 | 16.6 | 616 | 98.2 |
| 5 | 11 | 1.8 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q46

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 7 | 1.1 | 7 | 1.1 |
| 1 | 27 | 4.3 | 34 | 5.4 |
| 2 | 83 | 13.2 | 117 | 18.7 |
| 3 | 221 | 35.2 | 338 | 53.9 |
| 4 | 232 | 37.0 | 570 | 90.9 |
| 5 | 57 | 9.1 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q47

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 6 | 1.0 | 6 | 1.0 |
| 1 | 74 | 11.8 | 80 | 12.8 |
| 2 | 215 | 34.3 | 295 | 47.0 |
| 3 | 250 | 39.9 | 545 | 86.9 |
| 4 | 69 | 11.0 | 614 | 97.9 |
| 5 | 13 | 2.1 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q48

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 8 | 1.3 | 8 | 1.3 |
| 1 | 109 | 17.4 | 117 | 18.7 |
| 2 | 256 | 40.8 | 373 | 59.5 |
| 3 | 208 | 33.2 | 581 | 92.7 |
| 4 | 38 | 6.1 | 619 | 98.7 |
| 5 | 8 | 1.3 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q49

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 4 | 0.6 | 4 | 0.6 |
| 1 | 134 | 21.4 | 138 | 22.0 |
| 2 | 247 | 39.4 | 385 | 61.4 |
| 3 | 184 | 29.3 | 569 | 90.7 |
| 4 | 51 | 8.1 | 620 | 98.9 |
| 5 | 7 | 1.1 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q50

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 11 | 1.8 | 11 | 1.8 |
| 1 | 17 | 2.7 | 28 | 4.5 |
| 2 | 66 | 10.5 | 94 | 15.0 |
| 3 | 215 | 34.3 | 309 | 49.3 |
| 4 | 251 | 40.0 | 560 | 89.3 |
| 5 | 67 | 10.7 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q51

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 10 | 1.6 | 10 | 1.6 |
| 1 | 19 | 3.0 | 29 | 4.6 |
| 2 | 77 | 12.3 | 106 | 16.9 |
| 3 | 329 | 52.5 | 435 | 69.4 |
| 4 | 181 | 28.9 | 616 | 98.2 |
| 5 | 11 | 1.8 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

FREQUENCY DISTRIBUTION OF Q52

| VALUE | FREQ | PERCENT | CUMULATIVE | |
|-------|------|---------|------------|---------|
| | | | FREQ | PERCENT |
| 0 | 15 | 2.4 | 15 | 2.4 |
| 1 | 3 | 0.5 | 18 | 2.9 |
| 2 | 9 | 1.4 | 27 | 4.3 |
| 3 | 49 | 7.8 | 76 | 12.1 |
| 4 | 306 | 48.8 | 382 | 60.9 |
| 5 | 245 | 39.1 | 627 | 100.0 |
| TOTAL | 627 | 100.0 | | |

**Appendix G: Paired Z-Test Comparing Individual
MBTI Personality Types to the Survey Sample**

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|----|--------|--------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | TYPE | N | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 | Q20 | Q21 | Q22 |
| 1 | TYPE | | | | | | | | | | | | | | | |
| 2 | Q9 | 0.1 | | | | | | | | | | | | | | |
| 3 | Q10 | 1.8449 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | ENFJ | 1 | | | | | | | | | | | | | | |
| 7 | MEAN | | | | | | | | | | | | | | | |
| 8 | STDEV | | | | | | | | | | | | | | | |
| 9 | MEDIAN | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | ENFP | 10 | | | | | | | | | | | | | | |
| 13 | MEAN | | | | | | | | | | | | | | | |
| 14 | STDEV | | | | | | | | | | | | | | | |
| 15 | MEDIAN | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | |
| 17 | IScore | | | | | | | | | | | | | | | |
| 18 | T./F. | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | |
| 20 | ENTJ | 14 | | | | | | | | | | | | | | |
| 21 | MEAN | | | | | | | | | | | | | | | |
| 22 | STDEV | | | | | | | | | | | | | | | |
| 23 | MEDIAN | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | |
| 25 | IScore | | | | | | | | | | | | | | | |
| 26 | T./F. | | | | | | | | | | | | | | | |
| 27 | ENTP | 47 | | | | | | | | | | | | | | |
| 28 | MEAN | | | | | | | | | | | | | | | |
| 29 | STDEV | | | | | | | | | | | | | | | |
| 30 | MEDIAN | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | |
| 32 | ZScore | | | | | | | | | | | | | | | |
| 33 | T./F. | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | |
| 35 | ESFJ | 7 | | | | | | | | | | | | | | |
| 36 | MEAN | | | | | | | | | | | | | | | |
| 37 | STDEV | | | | | | | | | | | | | | | |
| 38 | MEDIAN | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | ZScore | | | | | | | | | | | | | | | |
| 41 | T./F. | | | | | | | | | | | | | | | |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | Q25 | Q24 | Q25 | Q26 | Q27 | Q28 | Q29 | Q30 | Q31 | Q32 | Q33 | Q34 | Q35 | Q36 | Q37 | Q38 |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | 2.6000 | 2.7000 | 2.1000 | 1.8000 | 1.6000 | 1.6000 | 2.2000 | 2.3000 | 1.8000 | 1.8000 | 1.6000 | 1.1000 | 1.9000 | 2.1000 | 2.6000 | 1.4000 |
| 15 | 0.8433 | 1.3375 | 1.1005 | 1.4757 | 0.8433 | 0.6962 | 1.1353 | 0.8233 | 1.1353 | 0.9189 | 1.2649 | 0.3162 | 0.7379 | 0.8758 | 0.6962 | 0.8433 |
| 16 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 1 |
| 17 | -0.4603 | -0.3215 | -0.1252 | 0.1636 | 0.3997 | 0.4085 | 0.1991 | 0.0153 | 0.1064 | -0.0447 | 0.0907 | 0.2561 | 0.2450 | 0.2647 | 0.1016 | 0.1813 |
| 18 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 19 | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | |
| 21 | 2.2143 | 2.5000 | 2.1429 | 3.0714 | 2.0000 | 2.0714 | 2.5714 | 2.5714 | 1.7857 | 2.3571 | 2.2143 | 1.5714 | 2.2857 | 2.5000 | 3.2857 | 1.8571 |
| 22 | 0.9750 | 1.0190 | 1.0905 | 1.9000 | 1.1787 | 1.0716 | 0.6462 | 1.0163 | 0.9750 | 1.5485 | 1.1217 | 0.8462 | 0.6112 | 0.7586 | 1.0690 | 1.1673 |
| 23 | 2 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 1 |
| 24 | -0.0636 | -0.1332 | -0.1680 | -0.5669 | 0.0389 | -0.0769 | -0.1680 | -0.2537 | 0.1217 | -0.5782 | -0.5188 | -0.5513 | -0.1735 | -0.1188 | -0.5679 | -0.3012 |
| 25 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 26 | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | |
| 28 | 2.0213 | 2.6383 | 2.1702 | 2.4255 | 2.0213 | 2.2128 | 2.6809 | 2.6383 | 2.0000 | 1.8511 | 1.9362 | 1.3830 | 2.2979 | 2.5108 | 2.7447 | 1.7021 |
| 29 | 0.7389 | 0.9190 | 1.0697 | 1.7662 | 1.0319 | 0.9074 | 1.1441 | 1.0514 | 0.8597 | 1.2155 | 1.1497 | 0.7955 | 0.9761 | 1.0809 | 0.8961 | 1.0818 |
| 30 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 3 | 3 | 1 |
| 31 | | | | | | | | | | | | | | | | |
| 32 | -0.5764 | 1.1225 | 0.6981 | 0.6596 | -0.0782 | 0.8789 | 0.9056 | 1.1375 | 0.4310 | 0.2983 | 0.7898 | 0.6239 | 0.6531 | 0.4611 | 0.1672 | 0.4470 |
| 33 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 34 | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | |
| 36 | 2.7143 | 3.2657 | 2.4286 | 3.5714 | 2.1429 | 2.4286 | 2.5714 | 2.2657 | 2.0000 | 2.1429 | 1.7143 | 1.1429 | 2.2857 | 1.8571 | 2.4286 | 1.7143 |
| 37 | 1.1127 | 1.3801 | 0.7868 | 1.8127 | 1.0690 | 0.5345 | 0.5345 | 1.2536 | 1.0000 | 0.3780 | 0.7559 | 0.3780 | 0.4880 | 0.6501 | 1.2724 | 0.4880 |
| 38 | 3 | 3 | 3 | 4 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 2 |
| 39 | | | | | | | | | | | | | | | | |
| 40 | -0.6225 | -0.8731 | -0.4379 | -0.8621 | -0.0900 | -0.4453 | -0.1680 | 0.0294 | -0.1071 | -0.3730 | -0.0227 | 0.1827 | -0.1735 | 0.4975 | 0.2690 | -0.1504 |
| 41 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |

| | AG | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----|----|
| 1 | Q39 | Q40 | Q41 | Q42 | Q43 | Q44 | Q45 | Q46 | Q47 | Q48 | Q49 | Q50 | Q51 | Q52 | | |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | 3.1000 | 2.1000 | 1.9000 | 3.1000 | 3.0000 | 2.9000 | 3.1000 | 2.9000 | 2.5000 | 1.9000 | 1.9000 | 3.3000 | 2.8000 | 3.8000 | | |
| 15 | 0.5676 | 0.8756 | 0.9644 | 0.5676 | 1.1547 | 0.5676 | 0.9644 | 1.3703 | 0.5270 | 0.7379 | 0.7379 | 0.9487 | 1.2293 | 2.0440 | | |
| 16 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 2 | 4 | 3 | 5 | | |
| 17 | -0.0175 | 0.1468 | -0.0004 | -0.1455 | 0.2747 | -0.0460 | -0.3572 | 0.3842 | 0.0424 | 0.4255 | 0.3811 | 0.0960 | 0.3333 | 0.3785 | | |
| 18 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 19 | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | |
| 21 | 2.7857 | 2.3571 | 2.4286 | 3.4286 | 2.9286 | 3.1429 | 3.0000 | 3.5000 | 2.7143 | 2.5000 | 2.4286 | 3.5714 | 3.0714 | 3.7143 | | |
| 22 | 0.9750 | 1.0062 | 0.9462 | 0.6462 | 1.0716 | 0.5345 | 0.7845 | 0.9405 | 0.8254 | 0.9405 | 0.7559 | 0.7559 | 1.0716 | 1.1387 | | |
| 23 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 4 | 3 | 4 | | |
| 24 | 0.3316 | -0.1279 | -0.6214 | -0.5036 | 0.3462 | -0.3231 | -0.2427 | -0.1989 | -0.1853 | -0.2376 | -0.1792 | -0.1695 | 0.0185 | 0.4682 | | |
| 25 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 26 | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | |
| 28 | 3.2126 | 2.4255 | 1.9574 | 3.1277 | 3.3404 | 3.1702 | 2.9362 | 3.3617 | 2.5318 | 2.4681 | 2.4681 | 3.5745 | 3.3830 | 4.2979 | | |
| 29 | 0.8631 | 0.9723 | 0.9079 | 0.8240 | 0.9155 | 0.8161 | 0.7634 | 0.9852 | 0.8810 | 0.8302 | 0.9290 | 0.9487 | 0.7676 | 0.9981 | | |
| 30 | 3 | 3 | 2 | 3 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 3 | 4 | | |
| 31 | | | | | | | | | | | | | | | | |
| 32 | 0.5382 | 0.7116 | 0.7380 | 0.7219 | 0.3102 | 1.4057 | 0.7160 | 0.2567 | -0.0335 | 0.8143 | 0.8305 | 0.6858 | 1.4210 | 0.4849 | | |
| 33 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 34 | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | |
| 36 | 3.1429 | 2.4286 | 2.2857 | 2.7143 | 3.2857 | 3.1429 | 2.7143 | 3.8571 | 2.7143 | 2.2857 | 2.4286 | 3.7143 | 3.2857 | 3.2857 | | |
| 37 | 0.8697 | 0.9759 | 0.9512 | 0.4880 | 0.4880 | 0.3780 | 0.4880 | 0.3780 | 0.4880 | 0.4880 | 0.5345 | 0.4880 | 0.7559 | 1.4560 | | |
| 38 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 2 | 4 | 3 | 4 | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | -0.0651 | -0.2050 | -0.4536 | 0.2749 | -0.0231 | -0.3231 | 0.0843 | -0.5476 | -0.1853 | -0.0007 | -0.1792 | -0.3092 | -0.2301 | 0.9112 | | |
| 41 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|---------|
| 42 | | | | | | | | | | | | | | | | |
| 43 | ESFP | 20 | | | | | | | | | | | | | | |
| 44 | | MEAN | 1.1500 | 3.5500 | 2.1000 | 1.7000 | 2.1000 | 2.8000 | 2.5000 | 1.4500 | 2.9000 | 1.8000 | 1.3000 | 1.2500 | 1.3000 | 2.2000 |
| 45 | | STDEV | 0.4894 | 0.8256 | 1.0208 | 0.8013 | 1.1192 | 1.0712 | 1.0513 | 0.8970 | 1.3727 | 0.9879 | 0.5712 | 0.5501 | 0.4702 | 0.8335 |
| 46 | | MEDIAN | 1 | 4 | 2 | 2 | 2 | 3 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 2 |
| 47 | | | | | | | | | | | | | | | | |
| 48 | SCORE | | -0.0047 | -0.1616 | -0.2002 | 0.1878 | 0.2837 | -0.1248 | 0.1680 | 0.1180 | 0.0426 | 0.1957 | -0.1588 | 0.0770 | 0.0818 | 0.1817 |
| 49 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 50 | | | | | | | | | | | | | | | | |
| 51 | ESTJ | 83 | | | | | | | | | | | | | | |
| 52 | | MEAN | 1.2048 | 3.1928 | 2.0723 | 1.9157 | 2.2682 | 3.0120 | 2.7852 | 1.4940 | 2.8616 | 2.1568 | 1.2410 | 1.2289 | 1.3855 | 2.3253 |
| 53 | | STDEV | 0.6581 | 0.9300 | 0.9728 | 0.8863 | 0.9894 | 0.9434 | 0.8801 | 0.6894 | 1.1283 | 0.8480 | 0.6381 | 0.5258 | 0.6407 | 0.7980 |
| 54 | | MEDIAN | 1 | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 2 |
| 55 | | | | | | | | | | | | | | | | |
| 56 | Z SCORE | | 0.3237 | -0.7849 | 0.6148 | 0.2340 | -0.4519 | 0.8095 | 0.6124 | -0.2420 | -0.1889 | 0.3425 | 0.1647 | -0.4808 | 0.2702 | -0.1224 |
| 57 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 58 | | | | | | | | | | | | | | | | |
| 59 | ESTP | 79 | | | | | | | | | | | | | | |
| 60 | | MEAN | 1.1013 | 3.4637 | 1.8228 | 1.8101 | 2.3544 | 2.6982 | 2.8076 | 1.4937 | 2.9873 | 2.0759 | 1.1139 | 1.3418 | 1.3767 | 2.2658 |
| 61 | | STDEV | 0.4894 | 0.9894 | 0.9304 | 0.8934 | 1.0505 | 1.0045 | 0.9394 | 0.7988 | 1.2142 | 0.9308 | 0.3576 | 0.6772 | 0.6056 | 0.9017 |
| 62 | | MEDIAN | 1 | 4 | 2 | 2 | 3 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 2 |
| 63 | | | | | | | | | | | | | | | | |
| 64 | Z SCORE | | -0.3632 | 0.3832 | -0.3600 | -0.2124 | -0.1879 | -0.3083 | -0.1653 | -0.2051 | 0.1158 | -0.0082 | -1.0075 | 0.2343 | 0.2501 | -0.3531 |
| 65 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 66 | | | | | | | | | | | | | | | | |
| 67 | INFJ | 3 | | | | | | | | | | | | | | |
| 68 | | MEAN | 1.0000 | 3.3333 | 2.3333 | 2.3333 | 2.0000 | 3.0000 | 3.0000 | 1.8667 | 3.3333 | 2.8667 | 1.0000 | 1.0000 | 1.3333 | 3.0000 |
| 69 | | STDEV | 0.0000 | 0.5774 | 1.1547 | 0.5774 | 0.0000 | 0.0000 | 0.0000 | 1.1547 | 0.5774 | 0.5774 | 0.0000 | 0.0000 | 0.5774 | 1.0000 |
| 70 | | MEDIAN | 1 | 3 | 3 | 2 | 2 | 3 | 3 | 1 | 3 | 3 | 1 | 1 | 1 | 3 |
| 71 | | | | | | | | | | | | | | | | |
| 72 | SCORE | | 0.2774 | 0.0576 | -0.4470 | -0.5571 | 0.3891 | -0.2288 | -0.3938 | -0.1729 | -0.3308 | -0.6473 | 0.3870 | 0.4700 | 0.0087 | -0.7765 |
| 73 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 74 | | | | | | | | | | | | | | | | |
| 75 | INFP | 7 | | | | | | | | | | | | | | |
| 76 | | MEAN | 1.0000 | 3.8571 | 1.8571 | 2.4286 | 2.4286 | 2.7143 | 2.4286 | 1.8571 | 3.0000 | 2.1429 | 1.2857 | 1.4286 | 1.2857 | 2.4286 |
| 77 | | STDEV | 0.0000 | 0.6801 | 0.6801 | 1.1339 | 1.1339 | 1.1127 | 0.9756 | 0.8997 | 0.8165 | 0.6801 | 0.4880 | 0.5345 | 0.4880 | 0.7868 |
| 78 | | MEDIAN | 1 | 4 | 2 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 3 |
| 79 | | | | | | | | | | | | | | | | |
| 80 | SCORE | | 0.2774 | -0.4723 | 0.0568 | -0.6891 | -0.0199 | 0.0885 | 0.2482 | -0.4286 | -0.0436 | -0.0713 | -0.1328 | -0.2038 | 0.0846 | -0.0921 |
| 81 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 82 | | | | | | | | | | | | | | | | |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 42 | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | |
| 44 | 2.3000 | 2.0500 | 1.9000 | 1.8000 | 1.9000 | 2.0000 | 2.0000 | 2.2500 | 1.5500 | 1.4000 | 1.5500 | 1.2500 | 2.0000 | 1.9000 | 2.4500 | 1.2500 |
| 45 | 0.9234 | 1.0960 | 0.9879 | 1.6416 | 1.0712 | 0.6584 | 0.9177 | 1.0699 | 0.8870 | 0.6806 | 1.0660 | 0.5501 | 0.9733 | 0.9119 | 1.0660 | 0.5501 |
| 46 | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 1 |
| 47 | | | | | | | | | | | | | | | | |
| 48 | -0.1760 | 0.2905 | 0.0652 | 0.1836 | 0.1291 | -0.0032 | 0.3968 | 0.0648 | 0.3734 | 0.3384 | 0.1403 | -0.0008 | 0.1365 | 0.4564 | 0.2480 | 0.3388 |
| 49 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 50 | | | | | | | | | | | | | | | | |
| 51 | 2.2410 | 2.1446 | 1.9518 | 2.1084 | 2.1084 | 2.1566 | 2.4458 | 2.3855 | 2.0241 | 1.7831 | 1.6265 | 1.2651 | 2.1446 | 2.3373 | 2.7349 | 1.4940 |
| 52 | | | | | | | | | | | | | | | | |
| 53 | 0.9317 | 1.0137 | 1.0581 | 1.7180 | 1.1865 | 0.8637 | 0.9532 | 1.0101 | 0.9236 | 1.0482 | 0.9088 | 0.5881 | 0.9517 | 1.0034 | 0.9118 | 0.8607 |
| 54 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 |
| 55 | | | | | | | | | | | | | | | | |
| 56 | 0.4139 | -0.7801 | -0.0584 | -0.0055 | 0.2035 | 0.5681 | 0.1719 | 0.2570 | 0.4984 | 0.1051 | -0.2641 | 0.0880 | 0.0730 | -0.1428 | 0.1250 | -0.3338 |
| 57 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 58 | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | |
| 60 | 2.1139 | 2.5190 | 2.0633 | 1.7975 | 1.9873 | 1.9873 | 2.5316 | 2.3924 | 1.8608 | 1.7975 | 1.8682 | 1.3038 | 2.0633 | 2.4304 | 2.5190 | 1.5688 |
| 61 | 0.9808 | 1.0844 | 1.1018 | 1.5556 | 1.1265 | 0.9128 | 1.0722 | 1.0672 | 0.9705 | 1.0424 | 1.0784 | 0.6476 | 0.9246 | 1.2056 | 1.1193 | 0.9830 |
| 62 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 3 | 3 | 1 |
| 63 | | | | | | | | | | | | | | | | |
| 64 | -0.0881 | 0.5479 | 0.3187 | -0.7443 | -0.1832 | -0.0388 | 0.4489 | 0.2874 | -0.1484 | 0.1585 | 0.0165 | 0.3107 | -0.2502 | 0.1872 | -0.8130 | -0.0082 |
| 65 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 66 | | | | | | | | | | | | | | | | |
| 67 | | | | | | | | | | | | | | | | |
| 68 | 2.6667 | 2.3333 | 2.6667 | 2.3333 | 2.0000 | 2.3333 | 2.6667 | 3.0000 | 3.0000 | 2.0000 | 1.6667 | 1.0000 | 2.0000 | 3.0000 | 2.6667 | 1.6667 |
| 69 | 0.5774 | 1.1547 | 0.5774 | 2.3094 | 1.0000 | 0.5774 | 0.5774 | 0.0000 | 0.0000 | 1.0000 | 1.1547 | 0.0000 | 1.0000 | 1.0000 | 0.5774 | 0.5774 |
| 70 | 3 | 3 | 3 | 1 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 2 |
| 71 | | | | | | | | | | | | | | | | |
| 72 | -0.5712 | 0.0237 | -0.6845 | -0.1312 | 0.0389 | -0.3471 | -0.2621 | -0.6784 | -1.1750 | -0.2362 | 0.0245 | 0.4274 | 0.1365 | -0.5982 | 0.0365 | -0.1001 |
| 73 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 74 | | | | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | | | | |
| 76 | 2.5714 | 2.5714 | 1.7143 | 1.0000 | 2.1429 | 1.5714 | 2.4286 | 2.1429 | 2.1429 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.2857 | 3.0000 | 1.5714 |
| 77 | 0.7868 | 0.7868 | 0.7559 | 0.0000 | 1.4639 | 0.7868 | 0.7868 | 0.8997 | 0.6901 | 0.8165 | 1.1547 | 0.0000 | 0.8165 | 1.1127 | 1.0000 | 0.7868 |
| 78 | 2 | 2 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 1 |
| 79 | | | | | | | | | | | | | | | | |
| 80 | -0.4685 | -0.2005 | 0.2420 | 0.6558 | -0.0800 | 0.4380 | -0.0288 | 0.1710 | -0.2597 | -0.2362 | -0.3062 | 0.4274 | 0.1365 | 0.0868 | -0.2889 | 0.0004 |
| 81 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 82 | | | | | | | | | | | | | | | | |

| | AG | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----|----|
| 42 | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | |
| 44 | 3.1500 | 2.0500 | 1.7500 | 2.8000 | 3.1500 | 2.7000 | 3.2000 | 3.1500 | 2.2000 | 2.1000 | 2.2500 | 2.7000 | 2.9000 | 4.4500 | | |
| 45 | 0.6708 | 0.9887 | 0.9105 | 1.0052 | 1.1821 | 0.8645 | 0.6959 | 0.8127 | 0.8335 | 1.0208 | 1.0599 | 1.2183 | 1.0712 | 0.5104 | | |
| 46 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | | |
| 47 | | | | | | | | | | | | | | | | |
| 48 | -0.0730 | 0.2038 | 0.1758 | 0.1814 | 0.1184 | 0.1822 | -0.4716 | 0.1408 | 0.3612 | 0.2045 | 0.0101 | 0.6828 | 0.2173 | -0.2824 | | |
| 49 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 50 | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | |
| 52 | 3.1446 | 2.3253 | 1.8954 | 2.9518 | 3.2651 | 2.8675 | 2.7711 | 3.2651 | 2.4819 | 2.2046 | 2.1687 | 3.4689 | 3.1084 | 4.1928 | | |
| 53 | 0.8714 | 0.9841 | 0.8135 | 0.8250 | 0.9381 | 0.8209 | 1.0040 | 1.0251 | 0.8746 | 0.9074 | 0.7938 | 0.9543 | 0.7159 | 0.8889 | | |
| 54 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 4 | 3 | 4 | | |
| 55 | | | | | | | | | | | | | | | | |
| 56 | 0.2559 | 0.3325 | -0.2009 | -0.0657 | 0.0058 | 0.0313 | -0.0824 | -0.1088 | -0.2449 | -0.3272 | -0.4217 | 0.2777 | 0.1084 | 0.1361 | | |
| 57 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 58 | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | |
| 60 | 3.0886 | 2.3291 | 1.9367 | 2.9484 | 3.2152 | 2.7468 | 2.6582 | 3.1266 | 2.3544 | 2.1392 | 2.2785 | 3.2658 | 2.9873 | 4.0888 | | |
| 61 | 1.0401 | 0.9694 | 0.8525 | 0.9858 | 1.0212 | 0.8392 | 0.8754 | 1.1021 | 0.8776 | 0.8433 | 0.9732 | 0.9434 | 0.9287 | 1.1000 | | |
| 62 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | | |
| 63 | | | | | | | | | | | | | | | | |
| 64 | 0.0154 | 0.3381 | 0.1610 | -0.0843 | -0.1756 | -0.4971 | -0.5484 | -0.5652 | -0.7808 | -0.6388 | 0.0721 | -0.5181 | -0.4000 | -0.2649 | | |
| 65 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 66 | | | | | | | | | | | | | | | | |
| 67 | | | | | | | | | | | | | | | | |
| 68 | 3.0000 | 3.0000 | 2.0000 | 2.3333 | 3.8867 | 3.0000 | 3.3333 | 3.0000 | 3.0000 | 2.8867 | 2.8867 | 4.0000 | 3.3333 | 4.3333 | | |
| 69 | 0.0000 | 1.0000 | 1.0000 | 0.5774 | 0.5774 | 0.0000 | 0.5774 | 0.0000 | 0.0000 | 0.5774 | 1.1547 | 1.0000 | 0.5774 | 0.5774 | | |
| 70 | 3 | 3 | 2 | 2 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 4 | 3 | 4 | | |
| 71 | | | | | | | | | | | | | | | | |
| 72 | 0.0836 | -0.8222 | -0.1179 | 0.6901 | -0.4201 | -0.1801 | -0.8243 | 0.2889 | -0.4889 | -0.4217 | -0.4316 | -0.5886 | -0.2853 | -0.1718 | | |
| 73 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 74 | | | | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | | | | |
| 76 | 3.1429 | 2.4286 | 2.0000 | 3.0000 | 3.2857 | 3.2857 | 3.0000 | 3.0000 | 2.5714 | 2.1429 | 2.0000 | 3.4286 | 3.2857 | 4.1429 | | |
| 77 | 0.8997 | 1.1339 | 0.5774 | 1.0000 | 0.4980 | 0.7559 | 0.5774 | 0.8185 | 0.7868 | 0.3780 | 0.5774 | 0.7868 | 0.7559 | 1.2150 | | |
| 78 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 4 | 3 | 5 | | |
| 79 | | | | | | | | | | | | | | | | |
| 80 | -0.0851 | -0.2050 | -0.1179 | -0.0385 | -0.0231 | -0.4861 | -0.2427 | 0.2869 | -0.0395 | 0.1571 | 0.2751 | -0.0297 | -0.2301 | 0.0251 | | |
| 81 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 82 | | | | | | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 83 | INTJ | 33 | | | | | | | | | | | | | | |
| 84 | | MEAN | 1.1818 | 3.7879 | 2.1212 | 2.0303 | 2.8081 | 2.9897 | 2.8364 | 1.6887 | 3.2424 | 2.0809 | 1.2727 | 1.3838 | 1.3030 | 2.4545 |
| 85 | | STDEV | 0.4647 | 0.7398 | 0.9273 | 0.8472 | 0.8638 | 0.9515 | 0.7833 | 0.6822 | 0.7918 | 0.7850 | 0.5168 | 0.7044 | 0.5855 | 0.7538 |
| 86 | | MEDIAN | 1 | 4 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 2 |
| 87 | | | | | | | | | | | | | | | | |
| 88 | Z SCORE | | 0.2726 | 1.9718 | 0.8393 | 0.7453 | 0.8452 | 0.7373 | -0.0619 | 0.6873 | 1.3527 | 0.0821 | 0.4291 | 0.5001 | -0.2256 | 0.5038 |
| 89 | T./F. | | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 90 | | | | | | | | | | | | | | | | |
| 91 | INTP | 63 | | | | | | | | | | | | | | |
| 92 | | MEAN | 1.1597 | 3.5238 | 1.8571 | 1.8413 | 2.3016 | 2.8825 | 2.4821 | 1.5397 | 3.2063 | 2.0842 | 1.2857 | 1.4803 | 1.2222 | 2.3810 |
| 93 | | STDEV | 0.6275 | 0.9977 | 0.8855 | 0.8837 | 1.0871 | 0.9127 | 0.9311 | 0.7897 | 1.2334 | 0.9283 | 0.6822 | 0.7583 | 0.4900 | 0.8118 |
| 94 | | MEDIAN | 1 | 4 | 2 | 2 | 2 | 3 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 2 |
| 95 | | | | | | | | | | | | | | | | |
| 96 | Z SCORE | | 0.0888 | 0.4853 | -0.2215 | -0.0771 | -0.3817 | -0.3950 | -0.6283 | 0.0084 | 0.7719 | 0.0887 | 0.3874 | 0.7801 | -0.8742 | 0.1332 |
| 97 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 98 | | | | | | | | | | | | | | | | |
| 99 | ISFJ | 3 | | | | | | | | | | | | | | |
| 100 | | MEAN | 2.0000 | 3.0000 | 2.0000 | 0.8867 | 2.6867 | 2.0000 | 1.8867 | 0.8867 | 2.3333 | 2.0000 | 1.0000 | 1.3333 | 1.0000 | 2.3333 |
| 101 | | STDEV | 1.7321 | 2.0000 | 1.7321 | 0.5774 | 1.5275 | 1.0000 | 0.5774 | 0.5774 | 1.1547 | 1.0000 | 0.0000 | 0.5774 | 0.0000 | 1.1547 |
| 102 | | MEDIAN | 1 | 3 | 1 | 1 | 3 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 3 |
| 103 | | | | | | | | | | | | | | | | |
| 104 | I SCORE | | -1.6035 | 0.3649 | -0.0944 | 1.4031 | -0.2471 | 0.8118 | 1.1043 | 1.1686 | 0.5308 | 0.0858 | 0.3870 | -0.0541 | 0.5401 | 0.0220 |
| 105 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 106 | | | | | | | | | | | | | | | | |
| 107 | ISFP | 5 | | | | | | | | | | | | | | |
| 108 | | MEAN | 1.0000 | 2.8000 | 1.8000 | 1.8000 | 2.2000 | 2.8000 | 2.4000 | 1.0000 | 2.2000 | 1.8000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 109 | | STDEV | 0.0000 | 1.3038 | 1.3038 | 0.8367 | 1.0854 | 1.0854 | 1.5166 | 0.0000 | 1.7889 | 0.5477 | 0.0000 | 0.0000 | 0.0000 | 1.2247 |
| 110 | | MEDIAN | 1 | 3 | 1 | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| 111 | | | | | | | | | | | | | | | | |
| 112 | I SCORE | | 0.2774 | 0.5872 | 0.1172 | 0.0702 | 0.1983 | -0.0207 | 0.2803 | 0.7221 | 0.6457 | 0.5256 | 0.3870 | 0.4700 | 0.5401 | 0.4213 |
| 113 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 114 | | | | | | | | | | | | | | | | |
| 115 | ISTJ | 151 | | | | | | | | | | | | | | |
| 116 | | MEAN | 1.1325 | 3.2450 | 1.9139 | 1.8212 | 2.4305 | 2.5960 | 2.5364 | 1.5033 | 2.8808 | 1.9073 | 1.1656 | 1.2517 | 1.3510 | 2.2517 |
| 117 | | STDEV | 0.5378 | 1.0281 | 0.9657 | 0.8413 | 1.0678 | 0.9804 | 0.8701 | 0.7561 | 1.1427 | 0.9263 | 0.4681 | 0.6134 | 0.6753 | 0.8886 |
| 118 | | MEDIAN | 1 | 3 | 2 | 2 | 3 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 2 |
| 119 | | | | | | | | | | | | | | | | |
| 120 | Z SCORE | | -0.1035 | -0.5243 | 0.0119 | -0.1692 | 0.0787 | -0.7082 | -0.4807 | -0.1692 | -0.2221 | -0.8823 | -0.3713 | -0.2850 | 0.0870 | -0.4172 |
| 121 | T./F. | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 122 | | | | | | | | | | | | | | | | |
| 123 | ISTP | 101 | | | | | | | | | | | | | | |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 83 | | | | | | | | | | | | | | | | |
| 84 | 2.1212 | 2.3039 | 2.0000 | 2.0303 | 2.4545 | 1.8182 | 2.4242 | 2.4545 | 2.0808 | 1.9091 | 1.6364 | 1.2121 | 2.6364 | 2.6970 | 2.7879 | 1.8182 |
| 85 | 0.9804 | 0.8603 | 0.8600 | 1.6295 | 1.0923 | 0.8083 | 0.9364 | 0.7538 | 0.8693 | 1.0417 | 0.9824 | 0.4848 | 0.8693 | 0.8633 | 0.7809 | 0.9828 |
| 86 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 2 |
| 87 | | | | | | | | | | | | | | | | |
| 88 | -0.0800 | 0.1452 | 0.1336 | -0.1831 | 1.3934 | -0.8144 | 0.0899 | 0.6773 | 0.6617 | 0.5531 | -0.2114 | -0.2844 | 2.6913 | 1.3387 | 0.3941 | 0.9284 |
| 89 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE |
| 90 | | | | | | | | | | | | | | | | |
| 91 | | | | | | | | | | | | | | | | |
| 92 | 2.2083 | 2.5079 | 2.0317 | 2.0317 | 2.1587 | 2.1111 | 2.2857 | 2.0535 | 1.8730 | 2.0159 | 1.9883 | 1.1805 | 2.2083 | 2.5397 | 2.5873 | 1.8413 |
| 93 | 0.9863 | 1.1053 | 1.0772 | 1.6746 | 1.1808 | 1.0941 | 1.1278 | 0.9651 | 0.9068 | 1.2377 | 1.1355 | 0.5345 | 0.9698 | 1.1046 | 1.1586 | 1.0807 |
| 94 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 3 | 1 |
| 95 | | | | | | | | | | | | | | | | |
| 96 | 0.2614 | 0.5007 | 0.2174 | -0.1751 | 0.3629 | 0.3871 | -0.3808 | -0.9849 | -0.1087 | 0.7873 | 0.9044 | -0.4081 | 0.3076 | 0.5488 | -0.3737 | 0.9251 |
| 97 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 98 | | | | | | | | | | | | | | | | |
| 99 | | | | | | | | | | | | | | | | |
| 100 | 2.3333 | 1.6667 | 2.0000 | 0.6667 | 2.0000 | 1.3333 | 2.3333 | 1.6667 | 1.3333 | 0.6667 | 1.6667 | 1.3333 | 1.6667 | 2.0000 | 2.3333 | 1.3333 |
| 101 | 1.1547 | 0.5774 | 1.0000 | 0.5774 | 1.0000 | 0.5774 | 1.1547 | 1.1547 | 1.1547 | 0.5774 | 1.1547 | 0.5774 | 1.1547 | 1.0000 | 1.1547 | 1.5275 |
| 102 | 3 | 2 | 2 | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 1 |
| 103 | | | | | | | | | | | | | | | | |
| 104 | -0.2119 | 0.6515 | -0.0300 | 0.8526 | 0.0389 | 0.6846 | 0.0673 | 0.8429 | 0.6047 | 1.0408 | 0.0245 | -0.1435 | 0.4982 | 0.3605 | 0.3619 | 0.2517 |
| 105 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 106 | | | | | | | | | | | | | | | | |
| 107 | | | | | | | | | | | | | | | | |
| 108 | 1.8000 | 1.2000 | 1.4000 | 1.2000 | 1.6000 | 1.8000 | 1.4000 | 1.8000 | 1.8000 | 1.0000 | 1.6000 | 1.0000 | 1.8000 | 1.6000 | 2.4000 | 1.0000 |
| 109 | 0.6367 | 0.4472 | 0.5477 | 0.4472 | 1.3416 | 1.3038 | 0.5477 | 0.8387 | 1.0684 | 0.0000 | 0.8944 | 0.0000 | 0.8944 | 0.8944 | 0.8944 | 0.0000 |
| 110 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 |
| 111 | | | | | | | | | | | | | | | | |
| 112 | 0.3630 | 1.0809 | 0.5411 | 0.5377 | 0.3997 | 0.2032 | 0.9898 | 0.5107 | 0.1084 | 0.7215 | 0.0607 | 0.4274 | 0.5708 | 0.7441 | 0.2989 | 0.6035 |
| 113 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 114 | | | | | | | | | | | | | | | | |
| 115 | | | | | | | | | | | | | | | | |
| 116 | 2.0530 | 2.1987 | 1.7815 | 1.9634 | 1.9536 | 1.8808 | 2.3576 | 2.1854 | 1.8278 | 1.5960 | 1.5298 | 1.1987 | 1.9536 | 2.3709 | 2.7682 | 1.4636 |
| 117 | 0.9846 | 1.0329 | 1.0256 | 1.6350 | 1.0914 | 0.9656 | 1.0221 | 1.0224 | 0.9075 | 0.9322 | 0.9078 | 0.5036 | 0.9262 | 1.0684 | 1.0548 | 0.8927 |
| 118 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 |
| 119 | | | | | | | | | | | | | | | | |
| 120 | -0.3217 | -0.5723 | -0.6745 | -0.2660 | -0.3032 | -0.4450 | -0.1587 | -0.4705 | -0.2978 | -0.6229 | -0.6570 | -0.3724 | -0.6879 | -0.0180 | 0.2252 | -0.4480 |
| 121 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 122 | | | | | | | | | | | | | | | | |
| 123 | | | | | | | | | | | | | | | | |

| | AG | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----|----|
| 83 | 3.0303 | 2.8081 | 2.1818 | 2.9091 | 3.4848 | 3.0303 | 3.2424 | 3.3639 | 3.0000 | 2.3638 | 2.4242 | 3.5758 | 3.2121 | 4.0809 | | |
| 84 | 0.7689 | 0.8863 | 0.8461 | 0.8790 | 0.8704 | 0.8840 | 0.6139 | 0.9663 | 0.7908 | 0.8223 | 0.7918 | 0.9892 | 0.8200 | 0.9139 | | |
| 85 | 3 | 3 | 2 | 3 | 4 | 3 | 3 | 4 | 3 | 2 | 2 | 4 | 3 | 4 | | |
| 86 | | | | | | | | | | | | | | | | |
| 87 | | | | | | | | | | | | | | | | |
| 88 | -0.2584 | 1.5105 | 1.2340 | -0.2414 | 0.9385 | 0.9168 | 2.7083 | 0.3797 | 2.1439 | 0.3529 | 0.7684 | 0.8773 | 0.5624 | -0.3083 | | |
| 89 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 90 | | | | | | | | | | | | | | | | |
| 91 | | | | | | | | | | | | | | | | |
| 92 | 2.8889 | 2.0794 | 1.8571 | 3.1270 | 3.1587 | 2.7460 | 2.7778 | 3.4603 | 2.6508 | 2.3651 | 2.4127 | 3.3175 | 3.0478 | 4.3016 | | |
| 93 | 0.9523 | 0.8854 | 0.8367 | 0.8989 | 0.9017 | 0.8224 | 0.7920 | 0.9474 | 0.8828 | 0.8289 | 0.9442 | 0.9972 | 0.9057 | 0.8732 | | |
| 94 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 2 | 3 | 3 | 4 | | |
| 95 | | | | | | | | | | | | | | | | |
| 96 | -0.7802 | -0.6655 | -0.1872 | 0.6677 | -0.4297 | -0.5106 | -0.0475 | 0.6458 | 0.4641 | 0.3566 | 0.6004 | -0.2983 | -0.1828 | 0.5683 | | |
| 97 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 98 | | | | | | | | | | | | | | | | |
| 99 | | | | | | | | | | | | | | | | |
| 100 | 2.6667 | 2.3333 | 1.6667 | 2.3333 | 2.6667 | 3.0000 | 3.0000 | 3.3333 | 3.3333 | 3.0000 | 2.6667 | 3.0000 | 4.3333 | 5.0000 | | |
| 101 | 1.5275 | 1.1547 | 1.1547 | 1.1547 | 0.5774 | 1.0000 | 0.0000 | 1.5275 | 1.5275 | 2.0000 | 2.0817 | 2.8458 | 0.5774 | 0.0000 | | |
| 102 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 4 | 4 | 5 | | |
| 103 | | | | | | | | | | | | | | | | |
| 104 | 0.4638 | -0.1022 | 0.2737 | 0.8901 | 0.6222 | -0.1601 | -0.2427 | -0.0377 | -0.8431 | -0.7901 | -0.4316 | 0.3894 | -1.4452 | -0.8608 | | |
| 105 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 106 | | | | | | | | | | | | | | | | |
| 107 | | | | | | | | | | | | | | | | |
| 108 | 3.2000 | 2.2000 | 1.4000 | 2.2000 | 2.6000 | 2.6000 | 2.6000 | 3.8000 | 1.8000 | 2.2000 | 1.8000 | 3.0000 | 2.6000 | 3.0000 | | |
| 109 | 1.6432 | 1.0854 | 0.5477 | 1.0854 | 1.1402 | 0.8844 | 1.1402 | 1.6432 | 0.8367 | 0.8367 | 0.8367 | 1.8708 | 0.8944 | 1.4142 | | |
| 110 | 4 | 3 | 1 | 3 | 3 | 3 | 3 | 4 | 2 | 2 | 2 | 4 | 3 | 4 | | |
| 111 | | | | | | | | | | | | | | | | |
| 112 | -0.1285 | 0.0418 | 0.5870 | 0.8354 | 0.6917 | 0.2983 | 0.2151 | -0.4920 | 0.7883 | 0.0940 | 0.4871 | 0.3894 | 0.5653 | 1.2065 | | |
| 113 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 114 | | | | | | | | | | | | | | | | |
| 115 | | | | | | | | | | | | | | | | |
| 116 | 3.1258 | 2.2119 | 1.8278 | 2.9139 | 3.2980 | 2.7285 | 2.5980 | 3.2715 | 2.4305 | 2.2814 | 2.1722 | 3.4305 | 3.0721 | 4.2583 | | |
| 117 | 0.8587 | 0.8611 | 0.8545 | 0.9305 | 0.9577 | 0.9376 | 0.8655 | 1.0194 | 1.0231 | 0.9423 | 0.9884 | 1.0166 | 0.8801 | 0.9199 | | |
| 118 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 4 | 3 | 4 | | |
| 119 | | | | | | | | | | | | | | | | |
| 120 | 0.1789 | -0.1151 | -0.3110 | -0.2092 | 0.1330 | -0.5185 | -0.7205 | -0.0840 | -0.3985 | 0.0250 | -0.3241 | 0.1176 | -0.0611 | 0.3661 | | |
| 121 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 122 | | | | | | | | | | | | | | | | |
| 123 | | | | | | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|-----|---|-------------------|----------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 124 | | MEAN | 1.118812 | 3.29703 | 1.792079 | 1.911881 | 2.455446 | 2.712871 | 2.772277 | 1.594158 | 2.742574 | 2.227723 | 1.277228 | 1.168317 | 1.435844 | 2.386139 |
| 125 | | STDEV | 0.4071 | 1.0834 | 0.9308 | 0.8332 | 1.0632 | 1.0133 | 0.8931 | 0.7248 | 1.2462 | 0.8818 | 0.6851 | 0.4705 | 0.7539 | 0.8243 |
| 126 | | MEDIAN | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 127 | | | | | | | | | | | | | | | | |
| 128 | | Z SCORE | -0.2586 | -0.3251 | -0.4719 | -0.2121 | 0.1880 | -0.2457 | 0.5088 | 0.2382 | -0.6150 | 0.8278 | 0.3801 | -1.0182 | 0.4770 | 0.1545 |
| 129 | | T./F. | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 130 | | | | | | | | | | | | | | | | |
| 131 | | POPULATION SCORES | | | | | | | | | | | | | | |
| 132 | | MEAN | 627 | 1.1475 | 3.3803 | 1.9108 | 1.8597 | 2.4078 | 2.7801 | 2.8495 | 1.5379 | 2.9484 | 2.0780 | 1.2127 | 1.2989 | 2.3517 |
| 133 | | STDEV | | 0.5317 | 0.9884 | 0.9452 | 0.8502 | 1.0479 | 0.9810 | 0.8800 | 0.7449 | 1.1808 | 0.9084 | 0.5497 | 0.6380 | 0.8349 |
| 134 | | MEDIAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 |
| 135 | | | | | | | | | | | | | | | | |
| 136 | | GOVT VS KTR | | | | | | | | | | | | | | |
| 137 | | | | | | | | | | | | | | | | |
| 138 | | Z score | | -1.5873 | -3.9387 | 3.3533 | 0.1749 | -1.1778 | -0.2912 | -2.2616 | -2.1907 | -2.7198 | -3.3337 | -0.1384 | 0.6308 | -0.0236 |
| 139 | | L/L | FALSE | TRUE | TRUE | TRUE | FALSE | FALSE | TRUE | TRUE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE |
| 140 | | GOVT | | | | | | | | | | | | | | |
| 141 | | MEAN | 231 | 1.1082 | 3.2078 | 2.0823 | 1.8701 | 2.3463 | 2.7882 | 2.5871 | 1.4632 | 2.7708 | 1.9284 | 1.2121 | 1.3203 | 2.2944 |
| 142 | | STDEV | | 0.3972 | 1.0001 | 1.0031 | 0.9327 | 1.0679 | 0.9877 | 0.9058 | 0.7560 | 1.2456 | 0.9458 | 0.5217 | 0.6798 | 0.8944 |
| 143 | | MEDIAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 |
| 144 | | | | | | | | | | | | | | | | |
| 145 | | KTR | | | | | | | | | | | | | | |
| 146 | | MEAN | 357 | 1.1737 | 3.5322 | 1.8085 | 1.8571 | 2.4510 | 2.7899 | 2.7367 | 1.6022 | 3.0420 | 2.1849 | 1.2185 | 1.2857 | 2.3950 |
| 147 | | STDEV | | 0.6025 | 0.9375 | 0.8979 | 0.7892 | 1.0282 | 0.9558 | 0.8599 | 0.7449 | 1.0763 | 0.8738 | 0.5781 | 0.6016 | 0.5949 |
| 148 | | MEDIAN | | 1.0000 | 4.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 |
| 149 | | | | | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | | | | | |
| 151 | | MALE VS FEMALE | | | | | | | | | | | | | | |
| 152 | | | | | | | | | | | | | | | | |
| 153 | | Z score | | 1.9952 | 4.5382 | 1.2020 | 1.1065 | 1.5744 | -1.2788 | 1.2841 | 1.7883 | 2.2415 | 3.0089 | 1.2336 | 3.5764 | 4.8895 |
| 154 | | L/L | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | TRUE | TRUE | FALSE | TRUE | TRUE |
| 155 | | MALE | | | | | | | | | | | | | | |
| 156 | | MEAN | 418 | 1.1746 | 3.5167 | 1.9428 | 1.8900 | 2.4593 | 2.7440 | 2.6842 | 1.5766 | 3.0283 | 2.1579 | 1.2321 | 1.3589 | 1.4139 |
| 157 | | STDEV | | 0.5882 | 0.9823 | 0.9529 | 0.8353 | 1.0200 | 0.9286 | 0.8515 | 0.7460 | 1.1408 | 0.9077 | 0.5721 | 0.6753 | 0.8845 |
| 158 | | MEDIAN | | 1.0000 | 4.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 |
| 159 | | | | | | | | | | | | | | | | |
| 160 | | FEMALE | | | | | | | | | | | | | | |
| 161 | | MEAN | 208 | 1.0857 | 3.1483 | 1.8468 | 1.8086 | 2.3158 | 2.8517 | 2.5837 | 1.4641 | 2.8038 | 1.9282 | 1.1770 | 1.1818 | 1.1982 |
| 162 | | STDEV | | 0.3928 | 0.9467 | 0.9331 | 0.8635 | 1.1032 | 1.0247 | 0.9577 | 0.7403 | 1.1888 | 0.8985 | 0.5022 | 0.5330 | 0.4649 |
| 163 | | MEDIAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 |
| 164 | | | | | | | | | | | | | | | | |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF |
|-----|----------|----------|----------|---------|----------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 124 | 2.046505 | 2.435644 | 2.019802 | 2.46505 | 2.069307 | 2 | 2.376238 | 2.376238 | 1.820792 | 1.873267 | 1.873267 | 1.277226 | 2.207821 | 2.316832 | 2.782178 | 1.574257 |
| 125 | 0.8674 | 1.1173 | 1.1400 | 1.8364 | 1.0701 | 1.0392 | 0.9680 | 1.0163 | 1.0265 | 1.0011 | 0.9707 | 0.8469 | 0.9080 | 0.9688 | 1.0257 | 0.9731 |
| 126 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 |
| 127 | -0.3636 | 0.2557 | 0.1668 | 0.7752 | 0.0905 | 0.0109 | -0.0963 | 0.2211 | 0.0763 | -0.2956 | -0.0680 | 0.1590 | 0.3342 | -0.2256 | 0.2819 | 0.0093 |
| 128 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 129 | | | | | | | | | | | | | | | | |
| 130 | | | | | | | | | | | | | | | | |
| 131 | | | | | | | | | | | | | | | | |
| 132 | 2.1368 | 2.3585 | 1.9685 | 2.1110 | 2.0431 | 1.9869 | 2.4014 | 2.3154 | 1.8997 | 1.7534 | 1.6914 | 1.2465 | 2.1258 | 2.3761 | 2.7041 | 1.5718 |
| 133 | 0.9277 | 1.0620 | 1.0507 | 1.8641 | 1.1085 | 0.9893 | 1.0118 | 1.0091 | 0.9395 | 1.0441 | 1.0079 | 0.5838 | 0.9216 | 1.0430 | 1.0243 | 0.9475 |
| 134 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 |
| 135 | | | | | | | | | | | | | | | | |
| 136 | | | | | | | | | | | | | | | | |
| 137 | | | | | | | | | | | | | | | | |
| 138 | | | | | | | | | | | | | | | | |
| 139 | -3.0710 | -3.4024 | -6.9007 | 1.8648 | 4.7845 | 0.2842 | -4.4639 | -0.6320 | -1.8697 | -0.9652 | -2.7107 | 0.1819 | -3.0151 | 1.0949 | -3.3538 | -2.4659 |
| 140 | TRUE | TRUE | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE |
| 141 | | | | | | | | | | | | | | | | |
| 142 | 1.9784 | 2.1818 | 1.6104 | 2.2381 | 2.3280 | 2.0303 | 2.1861 | 2.2727 | 1.8085 | 1.6928 | 1.5714 | 1.2641 | 1.9913 | 2.4286 | 2.5411 | 1.4459 |
| 143 | 0.9438 | 1.0802 | 0.9877 | 1.7569 | 1.1986 | 1.0232 | 1.0022 | 1.0750 | 0.8884 | 1.0978 | 0.9523 | 0.6075 | 0.9136 | 1.0270 | 0.9942 | 0.9067 |
| 144 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 |
| 145 | | | | | | | | | | | | | | | | |
| 146 | | | | | | | | | | | | | | | | |
| 147 | 2.2185 | 2.4874 | 2.2017 | 1.9872 | 1.8711 | 2.0056 | 2.5602 | 2.3277 | 1.9552 | 1.7787 | 1.7983 | 1.2549 | 2.2241 | 2.3333 | 2.8263 | 1.6387 |
| 148 | 0.8978 | 1.0375 | 1.0406 | 1.6447 | 1.0223 | 0.9481 | 0.9772 | 0.9579 | 0.8598 | 0.9880 | 1.0486 | 0.5801 | 0.9150 | 1.0350 | 1.0287 | 0.9546 |
| 149 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 |
| 150 | | | | | | | | | | | | | | | | |
| 151 | | | | | | | | | | | | | | | | |
| 152 | | | | | | | | | | | | | | | | |
| 153 | -0.6575 | 3.5228 | 4.7382 | 0.3152 | -0.4475 | 3.2971 | 3.5839 | 1.6128 | 1.3786 | 2.3531 | 4.4492 | 4.9820 | 4.3625 | 3.6074 | 4.3123 | 3.6602 |
| 154 | FALSE | TRUE | TRUE | FALSE | FALSE | TRUE | TRUE | FALSE | FALSE | TRUE | TRUE | TRUE | TRUE | TRUE | TRUE | TRUE |
| 155 | | | | | | | | | | | | | | | | |
| 156 | | | | | | | | | | | | | | | | |
| 157 | 2.1198 | 2.4695 | 2.1005 | 2.1268 | 2.0287 | 2.0861 | 2.5048 | 2.3612 | 1.9354 | 1.8230 | 1.8062 | 1.3206 | 2.2416 | 2.4833 | 2.8278 | 1.6651 |
| 158 | 0.9136 | 1.0389 | 1.0815 | 1.6937 | 1.0858 | 0.9829 | 1.0042 | 1.0207 | 0.9512 | 1.0513 | 1.0788 | 0.8442 | 0.8904 | 1.0530 | 1.0244 | 0.9877 |
| 159 | 2.0000 | 3.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 |
| 160 | | | | | | | | | | | | | | | | |
| 161 | | | | | | | | | | | | | | | | |
| 162 | 2.1722 | 2.1483 | 1.7033 | 2.0813 | 2.0718 | 1.8230 | 2.2010 | 2.2249 | 1.8278 | 1.6172 | 1.4641 | 1.1100 | 1.8985 | 2.1722 | 2.4641 | 1.3923 |
| 163 | 0.9803 | 1.0785 | 0.9385 | 1.7083 | 1.1801 | 0.9210 | 0.9689 | 0.9665 | 0.9068 | 1.0223 | 0.8086 | 0.4071 | 0.9428 | 0.9695 | 0.9805 | 0.8140 |
| 164 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 |

| | AS | AH | AJ | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|
| 126 | 3.069109 | 2.036604 | 1.891086 | 2.900099 | 3.336634 | 2.970287 | 2.821782 | 3.356436 | 2.742574 | 2.366337 | 2.257426 | 3.445545 | 3.066307 | 4.128713 | | |
| 127 | 0.8655 | 0.8593 | 0.8591 | 1.0049 | 0.9826 | 0.9429 | 0.9423 | 1.0816 | 1.0455 | 1.0366 | 1.0164 | 1.0666 | 0.7907 | 0.9128 | | |
| 128 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | |
| 129 | | | | | | | | | | | | | | | | |
| 130 | 0.0200 | -0.8561 | -0.0368 | 0.0871 | 0.2752 | 0.4348 | 0.1330 | 0.2097 | 0.7188 | 0.2910 | -0.0076 | 0.1597 | -0.0544 | -0.1557 | | |
| 131 | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | |
| 132 | | | | | | | | | | | | | | | | |
| 133 | 3.0843 | 2.2387 | 1.8696 | 2.9685 | 3.2636 | 2.8597 | 2.7890 | 3.2947 | 2.5399 | 2.2850 | 2.2595 | 3.3982 | 3.0874 | 4.1672 | | |
| 134 | 0.9003 | 0.9259 | 0.8512 | 0.9175 | 0.9594 | 0.8764 | 0.8736 | 1.0271 | 0.9411 | 0.9049 | 0.9433 | 1.0226 | 0.8621 | 0.9874 | | |
| 135 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | |
| 136 | | | | | | | | | | | | | | | | |
| 137 | | | | | | | | | | | | | | | | |
| 138 | -4.2431 | -1.7590 | -1.8102 | -3.7040 | -5.2068 | -1.1870 | 1.8627 | -0.1188 | -3.0769 | -0.3056 | -1.4107 | -1.0213 | -1.1559 | -1.8968 | | |
| 139 | TRUE | TRUE | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | TRUE | | |
| 140 | | | | | | | | | | | | | | | | |
| 141 | 2.9091 | 2.1558 | 1.8139 | 2.7985 | 3.0303 | 2.8312 | 2.8788 | 3.3117 | 2.4026 | 2.2814 | 2.1991 | 3.3723 | 3.0433 | 4.0909 | | |
| 142 | 0.9067 | 0.9564 | 0.8673 | 0.9497 | 0.9674 | 0.8857 | 0.9103 | 1.0908 | 0.9361 | 0.9798 | 0.9298 | 1.1033 | 0.9126 | 1.0196 | | |
| 143 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 4.0000 | | |
| 144 | | | | | | | | | | | | | | | | |
| 145 | | | | | | | | | | | | | | | | |
| 146 | 3.2289 | 2.2941 | 1.9440 | 3.0840 | 3.4510 | 2.9188 | 2.7595 | 3.3221 | 2.6443 | 2.3053 | 2.3109 | 3.4622 | 3.1289 | 4.2465 | | |
| 147 | 0.8556 | 0.8602 | 0.8260 | 0.8700 | 0.8806 | 0.8657 | 0.8460 | 0.9598 | 0.9208 | 0.8408 | 0.9518 | 0.9403 | 0.8178 | 0.9081 | | |
| 148 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 4.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | |
| 149 | | | | | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | | | | | |
| 151 | | | | | | | | | | | | | | | | |
| 152 | | | | | | | | | | | | | | | | |
| 153 | 1.9713 | 0.6600 | 4.6016 | 1.8001 | 4.6530 | 2.0611 | -1.2853 | 1.4242 | 4.0018 | 3.2357 | 0.9835 | 2.3698 | 0.0329 | 0.2061 | | |
| 154 | TRUE | FALSE | TRUE | TRUE | TRUE | TRUE | FALSE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE | FALSE | | |
| 155 | | | | | | | | | | | | | | | | |
| 156 | 3.1386 | 2.2584 | 2.0072 | 3.0167 | 3.3623 | 2.9163 | 2.7590 | 3.3421 | 2.6459 | 2.3732 | 2.2895 | 3.4737 | 3.0533 | 4.1794 | | |
| 157 | 0.8732 | 0.9110 | 0.8608 | 0.9015 | 0.9104 | 0.8225 | 0.8693 | 0.9985 | 0.9591 | 0.9185 | 0.9495 | 0.9849 | 0.8613 | 0.9840 | | |
| 158 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 3.5000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | |
| 159 | | | | | | | | | | | | | | | | |
| 160 | | | | | | | | | | | | | | | | |
| 161 | 2.9856 | 2.2057 | 1.6680 | 2.8756 | 3.0086 | 2.7560 | 2.8517 | 3.2153 | 2.3397 | 2.1262 | 2.2105 | 3.2584 | 3.0909 | 4.1627 | | |
| 162 | 0.8379 | 0.8561 | 0.7930 | 0.8374 | 1.0000 | 0.8622 | 0.8836 | 1.0771 | 0.8740 | 0.8757 | 0.9322 | 1.1095 | 0.8584 | 0.9569 | | |
| 163 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 4.0000 | | |
| 164 | | | | | | | | | | | | | | | | |

**Appendix H: Paired Z-Test Comparing Government Contract Negotiators
to Industry Contract Negotiators Within MBTI Functional Type Grouping**

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|----|--------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | N | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 | Q20 | Q21 | Q22 |
| 1 | | | | | | | | | | | | | | | | |
| 2 | Q1 | 0.1 | | | | | | | | | | | | | | |
| 3 | Q2 | 1.0449 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | GOVTE | 89 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | MEAN | | 1.1695 | 3.1461 | 2.1695 | 1.9101 | 2.4045 | 3.0337 | 2.7640 | 1.4944 | 2.7191 | 2.0899 | 1.1910 | 1.3033 | 1.3483 | 2.3598 |
| 9 | STDEV | | 0.4982 | 0.9238 | 1.0470 | 0.9000 | 1.0842 | 0.8976 | 0.8922 | 0.7705 | 1.2702 | 0.9249 | 0.4738 | 0.7630 | 0.8049 | 0.8427 |
| 10 | MEDIAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | 0.090554 | -3.85424 | 2.915811 | 0.280514 | 0.15047 | 1.598932 | 0.254788 | -0.63852 | -2.42051 | -0.37381 | -0.24698 | 1.000841 | 0.082185 | -0.15439 |
| 13 | | | FALSE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 14 | | | | | | | | | | | | | | | | |
| 15 | KTR E | 154 | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | |
| 17 | MEAN | | 1.1623 | 3.5909 | 1.7857 | 1.8768 | 2.3631 | 2.8377 | 2.7336 | 1.5584 | 3.1039 | 2.1364 | 1.2078 | 1.2887 | 1.3442 | 2.3768 |
| 18 | STDEV | | 0.5992 | 0.8974 | 0.8705 | 0.8030 | 1.0368 | 0.9733 | 0.8833 | 0.7230 | 1.0489 | 0.9502 | 0.5679 | 0.8084 | 0.5872 | 0.8091 |
| 19 | MEDIAN | | 1.0000 | 4.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 20 | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | |
| 22 | GOVT I | 142 | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | |
| 24 | MEAN | | 1.0704 | 3.2465 | 2.0282 | 1.8451 | 2.3099 | 2.5988 | 2.4437 | 1.4437 | 2.8028 | 1.8239 | 1.2254 | 1.2746 | 1.3310 | 2.2535 |
| 25 | STDEV | | 0.3502 | 1.0463 | 0.9745 | 0.9550 | 1.0598 | 0.9753 | 0.8854 | 0.7488 | 1.2333 | 0.9478 | 0.5509 | 0.8205 | 0.7018 | 0.9259 |
| 26 | MEDIAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 2.5000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 27 | | | | | | | | | | | | | | | | |
| 28 | | | -2.16258 | -2.17378 | 1.925099 | 0.027878 | -1.69807 | -1.47347 | -3.09702 | -2.32585 | -1.4805 | -4.08632 | -0.02017 | -0.01814 | -0.05504 | -1.63403 |
| 29 | | | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE |
| 30 | | | | | | | | | | | | | | | | |
| 31 | KTR I | 203 | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | |
| 33 | MEAN | | 1.1823 | 3.4877 | 1.8276 | 1.8424 | 2.5025 | 2.7537 | 2.7389 | 1.6355 | 2.9851 | 2.2217 | 1.2266 | 1.2759 | 1.3350 | 2.4089 |
| 34 | STDEV | | 0.6063 | 0.9886 | 0.9200 | 0.7802 | 1.0214 | 0.9431 | 0.8360 | 0.7811 | 1.0868 | 0.8115 | 0.5989 | 0.5983 | 0.8021 | 0.7805 |
| 35 | MEDIAN | | 1 | 4 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 2 |
| 36 | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | |
| 38 | GOVT S | 168 | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | MEAN | | 1.0884 | 3.0422 | 2.0482 | 1.8313 | 2.2651 | 2.7831 | 2.5241 | 1.4036 | 2.5723 | 1.8735 | 1.1867 | 1.2349 | 1.3494 | 2.2229 |
| 41 | STDEV | | 0.4004 | 1.0112 | 1.0258 | 0.9636 | 1.0884 | 0.9876 | 0.9059 | 0.7384 | 1.2374 | 0.8956 | 0.4749 | 0.5921 | 0.8864 | 0.9559 |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG |
|----|----------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1 | Q23 | Q24 | Q25 | Q26 | Q27 | Q28 | Q29 | Q30 | Q31 | Q32 | Q33 | Q34 | Q35 | Q36 | Q37 | Q38 | Q39 |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | 2.1798 | 2.3371 | 1.6404 | 2.5169 | 2.3463 | 2.1685 | 2.3598 | 2.5281 | 1.8328 | 1.7416 | 1.6282 | 1.2821 | 2.0874 | 2.4157 | 2.5853 | 1.4045 | 2.9101 |
| 9 | 0.9362 | 1.0760 | 0.9799 | 1.8776 | 1.2164 | 1.0027 | 0.9682 | 1.0881 | 0.8268 | 1.1434 | 0.9688 | 0.6432 | 0.8883 | 0.9978 | 1.0304 | 0.8754 | 0.9371 |
| 10 | 2.0000 | 3.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | 0.085587 | -0.7736 | -4.80099 | 2.86274 | 3.474223 | 1.004696 | -1.51116 | 1.310468 | 0.50054 | -0.6576 | -1.29784 | -0.37944 | -0.99823 | 0.854967 | -0.72685 | -1.7598 | -2.70648 |
| 13 | FALSE | FALSE | TRUE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | TRUE |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | 2.1688 | 2.4481 | 2.2857 | 1.8571 | 1.8182 | 2.0360 | 2.5584 | 2.3442 | 1.8701 | 1.8377 | 1.8052 | 1.3247 | 2.1883 | 2.2857 | 2.8948 | 1.6169 | 3.2403 |
| 18 | 0.8842 | 1.0789 | 1.0585 | 1.5527 | 1.0127 | 0.8086 | 1.0225 | 0.9827 | 0.9545 | 1.0128 | 1.0871 | 0.6458 | 0.8412 | 1.0647 | 1.0183 | 0.9579 | 0.8786 |
| 19 | 2.0000 | 2.5000 | 2.0000 | 1.0000 | 1.5000 | 2.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | 1.8521 | 2.0845 | 1.5915 | 2.0834 | 2.3189 | 1.9437 | 2.0775 | 2.1127 | 1.7324 | 1.8620 | 1.5352 | 1.2465 | 1.9437 | 2.4386 | 2.5070 | 1.4718 | 2.9085 |
| 25 | 0.8298 | 1.0751 | 1.0117 | 1.6596 | 1.1932 | 1.0299 | 1.0111 | 1.0386 | 0.8745 | 1.0711 | 0.9428 | 0.5957 | 0.9285 | 1.0482 | 0.9730 | 0.9278 | 0.8905 |
| 26 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 |
| 27 | | | | | | | | | | | | | | | | | |
| 28 | -4.00883 | -3.7762 | -4.91044 | -0.21807 | 3.263732 | -0.33169 | -4.49707 | -1.85803 | -2.88472 | -0.63885 | -2.42445 | 0.728779 | -3.07171 | 0.59379 | -3.85217 | -1.78528 | -3.23823 |
| 29 | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE | TRUE |
| 30 | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | |
| 33 | 2.2562 | 2.5172 | 2.1379 | 2.1034 | 1.9113 | 1.9803 | 2.5816 | 2.3153 | 2.0197 | 1.7340 | 1.7931 | 1.2020 | 2.2512 | 2.3885 | 2.9281 | 1.6552 | 3.2167 |
| 34 | 0.9084 | 1.0066 | 1.0248 | 1.7073 | 1.0302 | 0.9798 | 0.9439 | 0.9330 | 0.9584 | 0.9689 | 1.0131 | 0.5205 | 0.8681 | 1.0130 | 1.0242 | 0.9540 | 0.8398 |
| 35 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 3 |
| 36 | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | |
| 39 | 1.9578 | 2.0361 | 1.5422 | 2.2470 | 2.2711 | 2.0060 | 2.1627 | 2.2349 | 1.7882 | 1.5181 | 1.4578 | 1.2410 | 1.9038 | 2.3193 | 2.4819 | 1.3855 | 2.9337 |
| 40 | 0.8557 | 1.0438 | 0.8889 | 1.7801 | 1.1829 | 1.0180 | 0.8554 | 1.0839 | 0.8883 | 0.9580 | 0.7909 | 0.5947 | 0.9292 | 1.0447 | 0.9830 | 0.8715 | 0.9286 |
| 41 | | | | | | | | | | | | | | | | | |

| | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV | AW | AX |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----|----|
| 1 | Q40 | Q41 | Q42 | Q43 | Q44 | Q45 | Q46 | Q47 | Q48 | Q49 | Q50 | Q51 | Q52 | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | 2.3034 | 1.8213 | 2.8315 | 2.8989 | 2.8427 | 2.9888 | 3.1910 | 2.4157 | 2.1798 | 2.2987 | 3.2809 | 3.1348 | 4.0000 | | | | |
| 9 | 1.0469 | 0.8619 | 0.8290 | 1.0005 | 0.9523 | 0.9231 | 1.1269 | 0.8503 | 0.9801 | 0.8629 | 1.0443 | 0.9317 | 1.0766 | | | | |
| 10 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 4.0000 | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | -0.08243 | 0.10675 | -2.10627 | -4.10058 | -0.71882 | 2.106967 | -0.71344 | -0.34084 | -0.71333 | -0.08124 | -1.15389 | 0.473157 | -1.59517 | | | | |
| 13 | FALSE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | 2.3117 | 1.9091 | 3.0779 | 3.4351 | 2.9288 | 2.7273 | 3.2622 | 2.4545 | 2.2682 | 2.2782 | 3.4351 | 3.0779 | 4.2208 | | | | |
| 18 | 0.9112 | 0.8273 | 0.8989 | 0.9482 | 0.7930 | 0.8728 | 0.9482 | 0.8639 | 0.8168 | 0.9182 | 0.9283 | 0.8520 | 0.9718 | | | | |
| 19 | 2.0000 | 2.0000 | 3.0000 | 4.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 20 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | 2.0834 | 1.7485 | 2.7746 | 3.1127 | 2.8239 | 2.8099 | 3.3873 | 2.3944 | 2.3451 | 2.1549 | 3.4286 | 2.9859 | 4.1479 | | | | |
| 25 | 0.8850 | 0.8542 | 1.0203 | 0.9900 | 0.8447 | 0.8986 | 1.0842 | 0.9880 | 0.8898 | 0.9897 | 1.1386 | 0.8581 | 0.9817 | | | | |
| 26 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 27 | | | | | | | | | | | | | | | | | |
| 28 | -2.25499 | -2.42937 | -3.00755 | -3.43154 | -0.91942 | 0.641923 | 0.378465 | -3.71679 | 0.098349 | -1.89116 | -0.45528 | -1.8386 | -1.15898 | | | | |
| 29 | TRUE | TRUE | TRUE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | | | | |
| 30 | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | |
| 33 | 2.2808 | 1.9704 | 3.0887 | 3.4631 | 2.9113 | 2.7488 | 3.3448 | 2.7882 | 2.3350 | 2.3350 | 3.4828 | 3.1675 | 4.2680 | | | | |
| 34 | 0.8760 | 0.8280 | 0.8513 | 0.8457 | 0.9022 | 0.8271 | 0.9885 | 0.9384 | 0.8585 | 0.9780 | 0.9510 | 0.7907 | 0.8549 | | | | |
| 35 | 2 | 2 | 3 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 3 | 4 | | | | |
| 36 | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | |
| 40 | 2.1265 | 1.7711 | 2.7229 | 3.0000 | 2.7831 | 2.8072 | 3.2108 | 2.3072 | 2.2470 | 2.1205 | 3.3193 | 2.9699 | 4.0723 | | | | |
| 41 | 0.9353 | 0.8503 | 0.9511 | 0.9809 | 0.9283 | 0.9485 | 1.1484 | 0.9385 | 0.9813 | 0.9383 | 1.1230 | 0.9040 | 0.9821 | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|----|--------|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42 | MEAN | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | |
| 47 | KTR S | 258 | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | |
| 49 | MEAN | | | | | | | | | | | | | | | |
| 50 | STDEV | | | | | | | | | | | | | | | |
| 51 | MEAN | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | |
| 54 | GOVT N | 65 | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | |
| 56 | MEAN | | | | | | | | | | | | | | | |
| 57 | STDEV | | | | | | | | | | | | | | | |
| 58 | MEAN | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | |
| 61 | | | | | | | | | | | | | | | | |
| 62 | | | | | | | | | | | | | | | | |
| 63 | KTR N | 98 | | | | | | | | | | | | | | |
| 64 | | | | | | | | | | | | | | | | |
| 65 | MEAN | | | | | | | | | | | | | | | |
| 66 | STDEV | | | | | | | | | | | | | | | |
| 67 | MEAN | | | | | | | | | | | | | | | |
| 68 | | | | | | | | | | | | | | | | |
| 69 | | | | | | | | | | | | | | | | |
| 70 | GOVT T | 212 | | | | | | | | | | | | | | |
| 71 | | | | | | | | | | | | | | | | |
| 72 | MEAN | | | | | | | | | | | | | | | |
| 73 | STDEV | | | | | | | | | | | | | | | |
| 74 | MEAN | | | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | | | | |
| 76 | | | | | | | | | | | | | | | | |
| 77 | | | | | | | | | | | | | | | | |
| 78 | KTR T | 324 | | | | | | | | | | | | | | |
| 79 | | | | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | |
| 81 | MEAN | | | | | | | | | | | | | | | |
| 82 | STDEV | | | | | | | | | | | | | | | |

| | G | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 42 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 3 |
| 43 | -2.44453 | -0.00007 | -8.44672 | 1.80837 | 3.715255 | 0.069765 | -3.74444 | -0.72084 | -1.44273 | -2.37751 | -2.9881 | -0.31873 | -2.86588 | 0.238488 | -3.32078 | -1.98487 | -3.57718 |
| 44 | TRUE | TRUE | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE | TRUE |
| 45 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | |
| 49 | 2.1880 | 2.4574 | 2.1889 | 1.8390 | 1.8527 | 1.9061 | 2.5233 | 2.3101 | 1.9225 | 1.7442 | 1.7248 | 1.2597 | 2.1705 | 2.2846 | 2.8178 | 1.5620 | 3.2558 |
| 50 | 0.9105 | 1.0605 | 1.0680 | 1.8134 | 1.0286 | 0.9643 | 0.9870 | 0.9886 | 0.9811 | 0.9524 | 1.0428 | 0.9538 | 0.9221 | 1.0356 | 1.0867 | 0.9157 | 0.8668 |
| 51 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 3 |
| 52 | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | | |
| 56 | 2.0308 | 2.5538 | 1.7846 | 2.2154 | 2.4769 | 2.0623 | 2.2482 | 2.3692 | 1.8615 | 2.1365 | 1.8615 | 1.3231 | 2.2154 | 2.7077 | 2.6923 | 1.6000 | 2.8462 |
| 57 | 0.9180 | 1.0602 | 1.0632 | 1.7093 | 1.2133 | 1.0417 | 1.1185 | 1.0543 | 0.9334 | 1.2876 | 1.2359 | 0.8400 | 0.8384 | 0.8308 | 1.0143 | 0.9811 | 0.8520 |
| 58 | 2.0000 | 3.0000 | 1.0000 | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 |
| 59 | | | | | | | | | | | | | | | | | |
| 60 | -1.90244 | -0.07219 | -2.74889 | 0.233352 | 3.075411 | 0.391882 | -2.43753 | -0.02859 | -1.23391 | 1.391633 | -0.66081 | 0.822353 | -1.08294 | 1.761484 | -1.00074 | -1.49379 | -2.27311 |
| 61 | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | TRUE |
| 62 | | | | | | | | | | | | | | | | | |
| 63 | | | | | | | | | | | | | | | | | |
| 64 | | | | | | | | | | | | | | | | | |
| 65 | 2.3000 | 2.5857 | 2.2323 | 2.1515 | 1.9192 | 2.0303 | 2.6566 | 2.3737 | 2.0404 | 1.8687 | 1.9889 | 1.2424 | 2.3636 | 2.4343 | 2.8485 | 1.8384 | 3.1515 |
| 66 | 0.8625 | 0.9165 | 0.9671 | 1.7224 | 1.0067 | 0.9066 | 0.9483 | 0.8758 | 0.8680 | 1.0752 | 1.0449 | 0.5730 | 0.8859 | 1.0318 | 0.9188 | 1.0273 | 0.8252 |
| 67 | 2.0000 | 3.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 3.0000 |
| 68 | | | | | | | | | | | | | | | | | |
| 69 | | | | | | | | | | | | | | | | | |
| 70 | | | | | | | | | | | | | | | | | |
| 71 | | | | | | | | | | | | | | | | | |
| 72 | 1.9528 | 2.1792 | 1.6179 | 2.2672 | 2.3538 | 2.0425 | 2.2217 | 2.2783 | 1.8255 | 1.6981 | 1.5613 | 1.2689 | 2.0047 | 2.4623 | 2.5330 | 1.4623 | 2.8821 |
| 73 | 0.9527 | 1.0691 | 1.0119 | 1.7770 | 1.2130 | 1.0318 | 1.0089 | 1.0810 | 0.9085 | 1.1200 | 0.9444 | 0.8145 | 0.9282 | 1.0456 | 1.0136 | 0.9305 | 0.9134 |
| 74 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.5000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 |
| 75 | | | | | | | | | | | | | | | | | |
| 76 | -2.98042 | -3.5562 | -6.47112 | 1.824853 | 4.747687 | 0.269831 | -3.98287 | -0.66891 | -1.80824 | -1.03171 | -2.8386 | 0.008504 | -2.97481 | 1.000254 | -3.68871 | -2.33267 | -4.60571 |
| 77 | TRUE | TRUE | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE | TRUE |
| 78 | | | | | | | | | | | | | | | | | |
| 79 | | | | | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| 81 | 2.1975 | 2.5093 | 2.2088 | 2.0185 | 1.8765 | 2.0185 | 2.5741 | 2.3395 | 1.9568 | 1.7963 | 1.8086 | 1.2685 | 2.2489 | 2.3704 | 2.8611 | 1.8574 | 3.2438 |
| 82 | 0.8926 | 1.0214 | 1.0574 | 1.6524 | 1.0124 | 0.9803 | 0.9910 | 0.9593 | 0.9466 | 1.0086 | 1.0471 | 0.5983 | 0.9147 | 1.0313 | 1.0119 | 0.9717 | 0.8507 |

| | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV | AW | AX |
|----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----|----|
| 42 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | | | | |
| 43 | -1.53835 | -1.79582 | -3.69555 | -4.90404 | -0.93614 | 1.538086 | -1.17995 | -3.23228 | -0.21689 | -1.70875 | -1.15156 | -1.83589 | -1.83344 | | | | |
| 44 | FALSE | TRUE | TRUE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE | | | | |
| 45 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | |
| 48 | 2.2674 | 1.9225 | 3.0859 | 3.4660 | 2.8682 | 2.8687 | 3.3372 | 2.6124 | 2.2674 | 2.2829 | 3.4419 | 3.1279 | 4.2442 | | | | |
| 49 | 0.9008 | 0.8426 | 0.9037 | 0.9131 | 0.8899 | 0.8763 | 0.9835 | 0.9648 | 0.8821 | 0.8630 | 0.9816 | 0.8007 | 0.8769 | | | | |
| 50 | 2 | 2 | 3 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 3 | 4 | | | | |
| 51 | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | | |
| 56 | 2.2306 | 1.9231 | 2.8846 | 3.1077 | 2.8538 | 3.0815 | 3.5892 | 2.6482 | 2.3692 | 2.4000 | 3.5077 | 3.2308 | 4.1385 | | | | |
| 57 | 1.0119 | 0.9087 | 0.9269 | 1.0174 | 0.7569 | 0.7881 | 0.8833 | 0.8915 | 0.9774 | 0.8903 | 1.0477 | 0.9146 | 1.1163 | | | | |
| 58 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 4.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 59 | | | | | | | | | | | | | | | | | |
| 60 | -0.87102 | -0.50054 | -1.05516 | -1.95761 | -0.8026 | 1.080634 | 1.94416 | -0.59512 | -0.24978 | 0.115785 | -0.04839 | 0.695919 | -0.6706 | | | | |
| 61 | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | | | |
| 62 | | | | | | | | | | | | | | | | | |
| 63 | | | | | | | | | | | | | | | | | |
| 64 | | | | | | | | | | | | | | | | | |
| 65 | 2.3638 | 2.0000 | 3.1313 | 3.4040 | 3.0505 | 2.9293 | 3.2828 | 2.7273 | 2.4040 | 2.3838 | 3.5152 | 3.1313 | 4.2525 | | | | |
| 66 | 0.8825 | 0.7825 | 0.7778 | 0.8320 | 0.7474 | 0.7320 | 0.9798 | 0.7831 | 0.8839 | 0.8655 | 0.8252 | 0.8648 | 0.9830 | | | | |
| 67 | 2.0000 | 2.0000 | 3.0000 | 4.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 68 | | | | | | | | | | | | | | | | | |
| 69 | | | | | | | | | | | | | | | | | |
| 70 | | | | | | | | | | | | | | | | | |
| 71 | | | | | | | | | | | | | | | | | |
| 72 | 2.1851 | 1.8208 | 2.8160 | 3.0425 | 2.8349 | 2.8398 | 3.3068 | 2.4198 | 2.3113 | 2.2123 | 3.4151 | 3.0613 | 4.0891 | | | | |
| 73 | 0.9619 | 0.8686 | 0.9634 | 0.9848 | 0.9008 | 0.9147 | 1.0595 | 0.9530 | 0.9688 | 0.9425 | 1.0696 | 0.8981 | 0.9512 | | | | |
| 74 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 75 | | | | | | | | | | | | | | | | | |
| 76 | -1.59707 | -1.81203 | -3.69479 | -5.06989 | -1.04443 | 1.489615 | -0.32312 | -2.8163 | 0.107691 | -1.23258 | -0.70818 | -0.77685 | -2.0753 | | | | |
| 77 | FALSE | TRUE | TRUE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | TRUE | | | | |
| 78 | | | | | | | | | | | | | | | | | |
| 79 | | | | | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | |
| 81 | 2.2983 | 1.9588 | 3.1173 | 3.4691 | 2.9167 | 2.7222 | 3.3384 | 2.8543 | 2.3025 | 2.3148 | 3.4784 | 3.1204 | 4.2685 | | | | |
| 82 | 0.8790 | 0.8204 | 0.8576 | 0.8915 | 0.8633 | 0.8566 | 0.9546 | 0.9285 | 0.8371 | 0.9408 | 0.9123 | 0.7992 | 0.8791 | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|-----|--------|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 93 | MEAN | | 1.0000 | 4.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 94 | | | | | | | | | | | | | | | | |
| 95 | | | | | | | | | | | | | | | | |
| 96 | GOVT F | 19 | | | | | | | | | | | | | | |
| 97 | | | | | | | | | | | | | | | | |
| 98 | MEAN | | 1.1579 | 3.5263 | 2.1053 | 1.6942 | 2.2632 | 3.0526 | 2.4737 | 1.3158 | 2.4737 | 2.1053 | 1.0526 | 1.3158 | 1.2632 | 2.5263 |
| 99 | STDEV | | 0.3746 | 0.7723 | 1.1496 | 0.7493 | 1.0976 | 0.9113 | 0.8412 | 0.6710 | 1.3088 | 0.8753 | 0.2294 | 0.5824 | 0.4524 | 0.9843 |
| 100 | MEAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 3.0000 |
| 101 | | | | | | | | | | | | | | | | |
| 102 | | | -0.38484 | 0.283081 | 1.047365 | -0.58119 | -0.03087 | 1.112986 | -0.2758 | -1.23112 | -1.51822 | 0.528253 | -2.41588 | 0.258084 | 0.918008 | 0.983373 |
| 103 | | | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE |
| 104 | ATTR F | 33 | | | | | | | | | | | | | | |
| 105 | | | | | | | | | | | | | | | | |
| 106 | MEAN | | 1.2121 | 3.4545 | 1.7879 | 1.8182 | 2.2727 | 2.7576 | 2.5455 | 1.5758 | 3.0000 | 1.9687 | 1.3333 | 1.2727 | 1.1515 | 2.2727 |
| 107 | STDEV | | 0.6963 | 0.9712 | 0.8572 | 0.8823 | 1.0360 | 0.9384 | 1.0028 | 0.8303 | 1.0000 | 0.9180 | 0.5851 | 0.5741 | 0.3641 | 0.7613 |
| 108 | MEAN | | 1.0000 | 4.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 109 | | | | | | | | | | | | | | | | |
| 110 | GOVT J | 114 | | | | | | | | | | | | | | |
| 111 | | | | | | | | | | | | | | | | |
| 112 | MEAN | | 1.1228 | 3.1053 | 2.1579 | 1.9386 | 2.4035 | 2.8070 | 2.5614 | 1.3947 | 2.7456 | 1.9681 | 1.2105 | 1.2368 | 1.3158 | 2.2456 |
| 113 | STDEV | | 0.4635 | 1.0422 | 1.0289 | 0.9711 | 1.0185 | 0.9582 | 0.8828 | 0.6801 | 1.1735 | 0.9337 | 0.5081 | 0.6140 | 0.8285 | 0.9078 |
| 114 | MEAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.5000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 115 | | | | | | | | | | | | | | | | |
| 116 | | | -1.1101 | -2.53302 | 2.874439 | 0.911889 | 0.232138 | 0.130928 | -1.29433 | -2.82557 | -2.42113 | -1.28295 | 0.705678 | -0.50182 | -0.8959 | -1.24259 |
| 117 | | | FALSE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | TRUE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 118 | ATTR J | 168 | | | | | | | | | | | | | | |
| 119 | | | | | | | | | | | | | | | | |
| 120 | MEAN | | 1.1984 | 3.4107 | 1.8393 | 1.8393 | 2.3750 | 2.7917 | 2.6984 | 1.6369 | 3.0714 | 2.0852 | 1.1667 | 1.2738 | 1.3680 | 2.3750 |
| 121 | STDEV | | 0.8498 | 0.9178 | 0.9112 | 0.7764 | 1.0011 | 0.9779 | 0.8245 | 0.7684 | 1.0064 | 0.8351 | 0.5210 | 0.5864 | 0.6340 | 0.7791 |
| 122 | MEAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.5000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |
| 123 | | | | | | | | | | | | | | | | |
| 124 | GOVT P | 117 | | | | | | | | | | | | | | |
| 125 | | | | | | | | | | | | | | | | |
| 126 | MEAN | | 1.0840 | 3.3077 | 2.0085 | 1.8034 | 2.2906 | 2.7265 | 2.5726 | 1.5298 | 2.7949 | 1.8974 | 1.2137 | 1.4017 | 1.3580 | 2.3419 |
| 127 | STDEV | | 0.3212 | 0.9511 | 0.9782 | 0.8929 | 1.1146 | 0.9793 | 0.9314 | 0.8364 | 1.3166 | 0.9412 | 0.5387 | 0.7318 | 0.7005 | 0.8824 |
| 128 | MEAN | | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |

| | G | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 83 | 2.0000 | 3.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 84 | | | | | | | | | | | | | | | | | |
| 85 | | | | | | | | | | | | | | | | | |
| 86 | | | | | | | | | | | | | | | | | |
| 87 | | | | | | | | | | | | | | | | | |
| 88 | 2.2632 | 2.2105 | 1.5263 | 1.5789 | 2.0526 | 1.8947 | 1.7885 | 2.2105 | 1.6316 | 1.6316 | 1.8842 | 1.2105 | 1.8421 | 2.0526 | 2.6316 | 1.2632 | 3.2105 |
| 89 | 0.8057 | 1.2263 | 0.8412 | 1.3871 | 1.0260 | 0.9366 | 0.8550 | 1.0317 | 0.7809 | 0.8307 | 1.0569 | 0.5353 | 0.7647 | 0.7050 | 0.7609 | 0.5620 | 0.7873 |
| 90 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 91 | | | | | | | | | | | | | | | | | |
| 92 | -0.65362 | -0.17838 | -2.54814 | -0.49723 | 0.764117 | 0.061828 | -2.60528 | -0.0055 | -1.19509 | 0.110585 | -0.04166 | 0.658249 | -0.67083 | 0.346213 | 0.560304 | -1.04042 | 0.627222 |
| 93 | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE |
| 94 | | | | | | | | | | | | | | | | | |
| 95 | | | | | | | | | | | | | | | | | |
| 96 | | | | | | | | | | | | | | | | | |
| 97 | 2.4242 | 2.2727 | 2.1515 | 1.7879 | 1.8182 | 1.8788 | 2.4242 | 2.2121 | 1.9394 | 1.6081 | 1.6970 | 1.1212 | 2.0000 | 1.9697 | 2.4848 | 1.4545 | 3.0606 |
| 98 | 0.9364 | 1.1798 | 0.8704 | 1.5763 | 1.1307 | 0.8200 | 0.8303 | 0.9604 | 1.0880 | 0.7475 | 1.0749 | 0.3314 | 0.9014 | 1.0150 | 1.1214 | 0.7538 | 0.8993 |
| 99 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 100 | | | | | | | | | | | | | | | | | |
| 101 | | | | | | | | | | | | | | | | | |
| 102 | | | | | | | | | | | | | | | | | |
| 103 | | | | | | | | | | | | | | | | | |
| 104 | 1.9561 | 2.0098 | 1.6491 | 2.2719 | 2.4561 | 2.0439 | 2.1491 | 2.2544 | 1.9474 | 1.5526 | 1.5263 | 1.2105 | 2.0351 | 2.3421 | 2.6579 | 1.4912 | 2.9123 |
| 105 | 0.9444 | 1.0000 | 1.0304 | 1.7764 | 1.1760 | 1.0078 | 0.8947 | 1.0202 | 0.9105 | 0.9785 | 0.8846 | 0.5233 | 0.9494 | 1.0204 | 0.8940 | 0.9708 | 0.8881 |
| 106 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 107 | | | | | | | | | | | | | | | | | |
| 108 | -2.51905 | -3.21904 | -3.42549 | 1.62681 | 4.858186 | 0.919991 | -3.8773 | -0.20889 | 0.598362 | -2.21744 | -1.31446 | -0.70225 | -0.85228 | -0.55361 | -1.50817 | -0.81224 | -3.04271 |
| 109 | TRUE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE |
| 110 | | | | | | | | | | | | | | | | | |
| 111 | | | | | | | | | | | | | | | | | |
| 112 | | | | | | | | | | | | | | | | | |
| 113 | 2.2440 | 2.4048 | 2.0714 | 1.9345 | 1.7976 | 1.9345 | 2.5833 | 2.2798 | 1.8810 | 1.8214 | 1.6726 | 1.2560 | 2.1310 | 2.4107 | 2.8393 | 1.5633 | 3.2321 |
| 114 | 0.9362 | 1.0338 | 0.9844 | 1.6052 | 1.0240 | 0.9359 | 0.9629 | 0.9722 | 0.9209 | 1.0285 | 0.9634 | 0.5471 | 0.8928 | 1.0227 | 0.9669 | 0.8783 | 0.8332 |
| 115 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 3.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 116 | | | | | | | | | | | | | | | | | |
| 117 | | | | | | | | | | | | | | | | | |
| 118 | | | | | | | | | | | | | | | | | |
| 119 | | | | | | | | | | | | | | | | | |
| 120 | 2.0000 | 2.3504 | 1.5726 | 2.2051 | 2.2051 | 2.0171 | 2.2222 | 2.2906 | 1.6752 | 1.8291 | 1.6154 | 1.3162 | 1.9487 | 2.5128 | 2.4274 | 1.4017 | 2.9060 |
| 121 | 0.9469 | 1.1320 | 0.9877 | 1.7446 | 1.2144 | 1.0421 | 1.0895 | 1.1300 | 0.8693 | 1.1911 | 1.0158 | 0.6778 | 0.8793 | 1.0307 | 0.9854 | 0.8414 | 0.9283 |
| 122 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 2.0000 | 2.0000 | 2.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 |
| 123 | | | | | | | | | | | | | | | | | |

| | AH | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV | AW | AX |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----|----|
| 83 | 2.0000 | 2.0000 | 3.0000 | 4.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 84 | | | | | | | | | | | | | | | | | |
| 85 | | | | | | | | | | | | | | | | | |
| 86 | | | | | | | | | | | | | | | | | |
| 87 | | | | | | | | | | | | | | | | | |
| 88 | 2.0026 | 1.7368 | 2.5786 | 2.8947 | 2.7685 | 3.3156 | 3.3684 | 2.2105 | 1.9474 | 2.0528 | 2.8947 | 2.8421 | 4.0000 | | | | |
| 89 | 0.9113 | 0.8719 | 0.7685 | 1.1486 | 0.7133 | 0.7483 | 1.0116 | 0.7133 | 0.8481 | 0.7799 | 1.3701 | 1.0679 | 1.8330 | | | | |
| 90 | 2.0000 | 1.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 4.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 5.0000 | | | | |
| 91 | | | | | | | | | | | | | | | | | |
| 92 | -0.80623 | -0.32253 | -0.7439 | -1.24079 | -0.70205 | 1.90868 | 0.63642 | -1.50271 | -1.55198 | -0.85274 | -1.08585 | -1.23433 | -0.07159 | | | | |
| 93 | FALSE | FALSE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | FALSE | | | | |
| 94 | | | | | | | | | | | | | | | | | |
| 95 | | | | | | | | | | | | | | | | | |
| 96 | | | | | | | | | | | | | | | | | |
| 97 | 2.2727 | 1.8182 | 2.7576 | 3.2727 | 2.9394 | 2.9091 | 3.1818 | 2.5455 | 2.3333 | 2.2727 | 3.3030 | 3.2121 | 4.0303 | | | | |
| 98 | 1.0085 | 0.8823 | 0.9384 | 0.8758 | 0.7882 | 0.7230 | 1.0141 | 0.8893 | 0.8898 | 1.0687 | 1.1855 | 0.9824 | 1.1315 | | | | |
| 99 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 100 | | | | | | | | | | | | | | | | | |
| 101 | | | | | | | | | | | | | | | | | |
| 102 | | | | | | | | | | | | | | | | | |
| 103 | | | | | | | | | | | | | | | | | |
| 104 | 2.3158 | 1.9386 | 2.7719 | 3.0885 | 2.7685 | 2.8772 | 3.2281 | 2.4211 | 2.2882 | 2.1687 | 3.4035 | 3.0814 | 4.0175 | | | | |
| 105 | 0.9437 | 0.9051 | 0.8221 | 0.9883 | 0.9452 | 0.9134 | 1.1370 | 0.9857 | 0.9587 | 0.8916 | 1.0948 | 0.8953 | 1.0474 | | | | |
| 106 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 107 | | | | | | | | | | | | | | | | | |
| 108 | 0.214186 | 0.376754 | -2.34889 | -2.88728 | -0.9448 | 2.161004 | -0.98743 | -1.90185 | -0.04703 | -0.85745 | -1.11509 | -0.88506 | -2.27771 | | | | |
| 109 | FALSE | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | TRUE | | | | |
| 110 | | | | | | | | | | | | | | | | | |
| 111 | | | | | | | | | | | | | | | | | |
| 112 | | | | | | | | | | | | | | | | | |
| 113 | 2.2917 | 1.8988 | 3.0238 | 3.4048 | 2.8829 | 2.6429 | 3.3512 | 2.6428 | 2.3036 | 2.2619 | 3.5417 | 3.1548 | 4.2798 | | | | |
| 114 | 0.9048 | 0.8183 | 0.8259 | 0.9106 | 0.8337 | 0.8637 | 0.9034 | 0.9240 | 0.8942 | 0.9492 | 0.9015 | 0.8041 | 0.7810 | | | | |
| 115 | 2.0000 | 2.0000 | 3.0000 | 4.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 4.0000 | 3.0000 | 4.0000 | | | | |
| 116 | | | | | | | | | | | | | | | | | |
| 117 | | | | | | | | | | | | | | | | | |
| 118 | | | | | | | | | | | | | | | | | |
| 119 | | | | | | | | | | | | | | | | | |
| 120 | 2.0000 | 1.6923 | 2.8205 | 2.9658 | 2.8718 | 2.8803 | 3.3632 | 2.3846 | 2.2650 | 2.2308 | 3.3419 | 3.0256 | 4.1624 | | | | |
| 121 | 0.9489 | 0.8143 | 0.9792 | 1.0250 | 0.8256 | 0.9113 | 1.0419 | 0.8891 | 1.0034 | 0.9883 | 1.1154 | 0.9328 | 0.9910 | | | | |
| 122 | 2.0000 | 1.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 4.0000 | 2.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 4.0000 | | | | |
| 123 | | | | | | | | | | | | | | | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|-----|--------|-----|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|----------|
| 124 | | | -1.1815 | -2.9806 | 2.02928 | -0.68851 | -1.77708 | -0.54562 | -1.85431 | -0.44393 | -1.50188 | -3.36934 | -0.75605 | 1.30444 | 0.612322 | -0.70525 |
| 125 | | | FALSE | TRUE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE |
| 126 | | | | | | | | | | | | | | | | |
| 127 | KTR P | 169 | | | | | | | | | | | | | | |
| 128 | | | | | | | | | | | | | | | | |
| 129 | MEAN | | 1.1534 | 3.6402 | 1.7631 | 1.8730 | 2.5185 | 2.7884 | 2.7725 | 1.5714 | 3.0159 | 2.2646 | 1.2646 | 1.2863 | 1.3122 | 2.4127 |
| 130 | STDEV | | 0.5581 | 0.9440 | 0.8876 | 0.8021 | 1.0498 | 0.9384 | 0.8609 | 0.7230 | 1.1368 | 0.9015 | 0.6222 | 0.6076 | 0.5582 | 0.8049 |
| 131 | MEDIAN | | 1.0000 | 4.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 3.0000 | 1.0000 | 3.0000 | 2.0000 | 1.0000 | 1.0000 | 1.0000 | 2.0000 |

| | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|----------|---------|----------|----------|----------|----------|
| 124 | -1.81798 | -1.63082 | -8.28276 | 0.752003 | 1.988647 | -0.43482 | -2.54687 | -0.63779 | -3.20726 | 0.67869 | -2.37965 | 0.811282 | -3.3983 | 2.037823 | -3.24242 | -2.88498 | -2.95705 |
| 125 | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | FALSE | TRUE | TRUE | TRUE | TRUE | TRUE |
| 126 | | | | | | | | | | | | | | | | | |
| 127 | | | | | | | | | | | | | | | | | |
| 128 | 2.19658 | 2.5608 | 2.31775 | 2.0529 | 1.9385 | 2.0888 | 2.5397 | 2.3704 | 2.0212 | 1.7407 | 1.9101 | 1.2540 | 2.3089 | 2.2846 | 2.8148 | 1.8878 | 3.2222 |
| 129 | 0.8622 | 1.0380 | 1.0883 | 1.6814 | 1.0191 | 0.9588 | 0.8919 | 0.9455 | 0.9891 | 0.9518 | 1.1036 | 0.6094 | 0.9289 | 1.0437 | 1.0632 | 1.0174 | 0.8772 |
| 130 | 2.0000 | 3.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 2.0000 | 1.0000 | 2.0000 | 1.0000 | 2.0000 | 2.0000 | 3.0000 | 1.0000 | 3.0000 |
| 131 | | | | | | | | | | | | | | | | | |

| | AM | AI | AJ | AK | AL | AM | AN | AO | AP | AQ | AR | AS | AT | AU | AV | AW | AX |
|-----|----------|---------|---------|----------|----------|----------|----------|--------|----------|----------|----------|----------|----------|----|----|----|----|
| 124 | -2.73283 | -3.0174 | -2.8311 | -4.61371 | -0.70385 | 0.531714 | 0.799807 | -2.461 | -0.36378 | -1.08217 | -0.39734 | -0.76132 | -0.46521 | | | | |
| 125 | TRUE | TRUE | TRUE | TRUE | FALSE | FALSE | FALSE | TRUE | FALSE | FALSE | FALSE | FALSE | .SE | | | | |
| 126 | | | | | | | | | | | | | | | | | |
| 127 | | | | | | | | | | | | | | | | | |
| 128 | | | | | | | | | | | | | | | | | |
| 129 | 2.2963 | 1.9841 | 3.1376 | 3.4821 | 2.9418 | 2.8254 | 3.2863 | 2.6455 | 2.3089 | 2.3545 | 3.3915 | 3.1058 | 4.2169 | | | | |
| 130 | 0.8795 | 0.8346 | 0.9083 | 0.8729 | 0.8763 | 0.8227 | 1.0080 | 0.9204 | 0.7928 | 0.9544 | 0.9704 | 0.8312 | 1.0056 | | | | |
| 131 | 2.0000 | 2.0000 | 3.0000 | 4.0000 | 3.0000 | 3.0000 | 3.0000 | 3.0000 | 2.0000 | 2.0000 | 3.0000 | 3.0000 | 4.0000 | | | | |

Appendix I: Chi-Squared Analysis for Industry
Contract Negotiators MBTI Personality Type Frequency
Distribution Using SRI VALS Databank as Expected Frequency

| | A | B | C | D | E | F | G | H | I | J |
|----|--------------------------|-------|-------|-------|--------|----------|----------|---|--------|---|
| 1 | 446 | | | | | | | | Z | |
| 2 | 659 | ISTJ | ISFJ | INFJ | INTJ | | | | | |
| 3 | MALE | 0.307 | 0.076 | 0.018 | 0.049 | | | | | |
| 4 | | 137 | 34 | 8 | 22 | | | | | |
| 5 | FEMALE | 0.112 | 0.209 | 0.038 | 0.021 | | | | | |
| 6 | | 74 | 138 | 25 | 14 | | | | | |
| 7 | SURVEY MALE | 73 | 1 | 1 | 13 | | | | | |
| 8 | SURVEY FEMALE | 11 | 1 | 2 | 4 | | | | | |
| 9 | EXPECTED VALUE MALE | 81 | 20 | 5 | 13 | | | | | |
| 10 | EXPECTED VALUE FEMALE | 10 | 19 | 3 | 2 | | | | | |
| 11 | CHI-SQUARED VALUE MALE | 0.86 | 18.19 | 2.98 | 0.00 | 22.03 | | | | |
| 12 | CHI-SQUARED VALUE FEMALE | 0.05 | 17.28 | 0.84 | 2.21 | | | | 20.18 | |
| 13 | | | | | | | | | | |
| 14 | | ISTP | ISFP | INFP | INTP | | | | | |
| 15 | MALE | 0.083 | 0.029 | 0.038 | 0.038 | | | | | |
| 16 | | 37 | 13 | 16 | 17 | | | | | |
| 17 | FEMALE | 0.046 | 0.093 | 0.04 | 0.009 | | | | | |
| 18 | | 30 | 61 | 26 | 6 | | | | | |
| 19 | SURVEY MALE | 43 | 1 | 1 | 24 | | | | | |
| 20 | SURVEY FEMALE | 12 | 2 | 4 | 10 | | | | | |
| 21 | EXPECTED VALUE MALE | 22 | 8 | 10 | 10 | | | | | |
| 22 | EXPECTED VALUE FEMALE | 4 | 9 | 4 | 1 | | | | | |
| 23 | CHI-SQUARED VALUE MALE | 20.08 | 5.82 | 7.84 | 19.27 | 52.79 | | | | |
| 24 | CHI-SQUARED VALUE FEMALE | 14.28 | 5.02 | 0.83 | 101.80 | | | | 120.91 | |
| 25 | | | | | | | | | | |
| 26 | | ESTP | ESFP | ENFP | ENTP | | | | | |
| 27 | MALE | 0.049 | 0.018 | 0.018 | 0.031 | | | | | |
| 28 | | 22 | 8 | 8 | 14 | | | | | |
| 29 | FEMALE | 0.033 | 0.079 | 0.05 | 0.014 | | | | | |
| 30 | | 22 | 52 | 33 | 9 | | | | | |
| 31 | SURVEY MALE | 42 | 5 | 2 | 15 | | | | | |
| 32 | SURVEY FEMALE | 9 | 6 | 1 | 12 | | | | | |
| 33 | EXPECTED VALUE MALE | 13 | 5 | 5 | 8 | | | | | |
| 34 | EXPECTED VALUE FEMALE | 3 | 7 | 5 | 1 | | | | | |
| 35 | CHI-SQUARED VALUE MALE | 64.83 | 0.01 | 1.61 | 5.60 | 72.06 | | | | |
| 36 | CHI-SQUARED VALUE FEMALE | 11.72 | 0.22 | 2.82 | 88.09 | | | | 103.84 | |
| 37 | | | | | | | | | | |
| 38 | | ESTJ | ESFJ | ENFJ | ENTJ | | | | | |
| 39 | MALE | 0.123 | 0.043 | 0.016 | 0.065 | | | | | |
| 40 | | 55 | 19 | 7 | 29 | | | | | |
| 41 | FEMALE | 0.084 | 0.124 | 0.027 | 0.021 | | | | | |
| 42 | | 55 | 82 | 18 | 14 | | | | | |
| 43 | SURVEY MALE | 35 | 2 | 0 | 7 | | | | | |
| 44 | SURVEY FEMALE | 12 | 3 | 1 | 2 | | | | | |
| 45 | EXPECTED VALUE MALE | 33 | 11 | 4 | 17 | | | | | |
| 46 | EXPECTED VALUE FEMALE | 8 | 11 | 2 | 2 | | | | | |
| 47 | CHI-SQUARED VALUE MALE | 0.18 | 7.75 | 4.24 | 6.07 | 18.23 | | | | |
| 48 | CHI-SQUARED VALUE FEMALE | 2.36 | 6.20 | 0.89 | 0.69 | | | | 9.45 | |
| 49 | | | | | | 165.1073 | 244.9352 | | | |
| 50 | | | | | | MALE | FEMALE | | | |

Appendix J: Chi-Squared Analysis for Government
Contract Negotiators MBTI Personality Type Frequency
Distribution Using SRI VALS Databank as Expected Frequency

| | A | B | C | D | E | F | G | H | I | J |
|----|--------------------------|-------------|-------------|-------------|-------------|-------|---|---|---------|----------|
| 1 | 446 | | | | | | | | % | |
| 2 | 659 | <i>ISTJ</i> | <i>ISFJ</i> | <i>INFJ</i> | <i>INTJ</i> | | | | | |
| 3 | MALE | 0.307 | 0.076 | 0.018 | 0.049 | | | | | |
| 4 | | 137 | 34 | 8 | 22 | | | | | |
| 5 | FEMALE | 0.112 | 0.209 | 0.038 | 0.021 | | | | | |
| 6 | | 74 | 138 | 25 | 14 | | | | | |
| 7 | SURVEY MALE | 37 | 1 | 0 | 7 | | | | | |
| 8 | SURVEY FEMALE | 22 | 0 | 0 | 7 | | | | | |
| 9 | EXPECTED VALUE MALE | 38 | 9 | 2 | 6 | | | | | |
| 10 | EXPECTED VALUE FEMALE | 12 | 22 | 4 | 2 | | | | | |
| 11 | CHI-SQUARED VALUE MALE | 0.03 | 7.53 | 2.23 | 0.14 | 9.93 | | | | |
| 12 | CHI-SQUARED VALUE FEMALE | 8.37 | 22.36 | 4.07 | 10.05 | | | | | 44.85 |
| 13 | | | | | | | | | | |
| 14 | | <i>ISTP</i> | <i>ISFP</i> | <i>INFP</i> | <i>INTP</i> | | | | | |
| 15 | MALE | 0.083 | 0.029 | 0.036 | 0.038 | | | | | |
| 16 | | 37 | 13 | 16 | 17 | | | | | |
| 17 | FEMALE | 0.046 | 0.093 | 0.04 | 0.009 | | | | | |
| 18 | | 30 | 61 | 26 | 6 | | | | | |
| 19 | SURVEY MALE | 26 | 0 | 1 | 12 | | | | | |
| 20 | SURVEY FEMALE | 14 | 2 | 1 | 12 | | | | | |
| 21 | EXPECTED VALUE MALE | 10 | 4 | 4 | 5 | | | | | |
| 22 | EXPECTED VALUE FEMALE | 5 | 10 | 4 | 1 | | | | | |
| 23 | CHI-SQUARED VALUE MALE | 23.97 | 3.60 | 2.69 | 11.27 | 41.53 | | | | |
| 24 | CHI-SQUARED VALUE FEMALE | 16.74 | 6.35 | 2.51 | 126.50 | | | | | 152.11 |
| 25 | | | | | | | | | | |
| 26 | | <i>ESTP</i> | <i>ESFP</i> | <i>ENFP</i> | <i>ENTP</i> | | | | | |
| 27 | MALE | 0.049 | 0.018 | 0.018 | 0.031 | | | | | |
| 28 | | 22 | 8 | 8 | 14 | | | | | |
| 29 | FEMALE | 0.033 | 0.079 | 0.05 | 0.014 | | | | | |
| 30 | | 22 | 52 | 33 | 9 | | | | | |
| 31 | SURVEY MALE | 14 | 1 | 2 | 7 | | | | | |
| 32 | SURVEY FEMALE | 8 | 6 | 3 | 8 | | | | | |
| 33 | EXPECTED VALUE MALE | 6 | 2 | 2 | 4 | | | | | |
| 34 | EXPECTED VALUE FEMALE | 4 | 8 | 5 | 1 | | | | | |
| 35 | CHI-SQUARED VALUE MALE | 10.33 | 0.68 | 0.02 | 2.59 | 13.63 | | | | |
| 36 | CHI-SQUARED VALUE FEMALE | 5.66 | 0.71 | 1.03 | 28.22 | | | | | 35.62 |
| 37 | | | | | | | | | | |
| 38 | | <i>ESTJ</i> | <i>ESFJ</i> | <i>ENFJ</i> | <i>ENTJ</i> | | | | | |
| 39 | MALE | 0.123 | 0.043 | 0.016 | 0.065 | | | | | |
| 40 | | 55 | 19 | 7 | 29 | | | | | |
| 41 | FEMALE | 0.084 | 0.124 | 0.027 | 0.021 | | | | | |
| 42 | | 55 | 82 | 18 | 14 | | | | | |
| 43 | SURVEY MALE | 13 | 1 | 0 | 2 | | | | | |
| 44 | SURVEY FEMALE | 20 | 1 | 0 | 3 | | | | | |
| 45 | EXPECTED VALUE MALE | 15 | 5 | 2 | 8 | | | | | |
| 46 | EXPECTED VALUE FEMALE | 9 | 13 | 3 | 2 | | | | | |
| 47 | CHI-SQUARED VALUE MALE | 0.33 | 3.52 | 1.98 | 4.56 | 10.39 | | | | |
| 48 | CHI-SQUARED VALUE FEMALE | 13.49 | 11.34 | 2.89 | 0.25 | | | | | 27.98 |
| 49 | | | | | | | | | 75.4846 | 232.5815 |
| 50 | | | | | | | | | MALE | FEMALE |

Appendix K: Chi-Squared Analysis Comparing Government Contract Negotiators MBTI Personality Type Frequency Distribution to Industry Contract Negotiators Using Industry Contract Negotiators MBTI Personality Type Frequency Distribution as Expected Frequency

| | A | B | C | D | E | F | G | H | I | J |
|----|--------------------------|-------------|---|-------------|---|-------------|---|-------------|--------|---------|
| 1 | 265 | | | | | | | | 2 | |
| 2 | 92 | ISTJ | | ISFJ | | INFJ | | INTJ | | |
| 3 | MALE | 0.275 | | 0.004 | | 0.004 | | 0.053 | | |
| 4 | | 73 | | 1 | | 1 | | 14 | | |
| 5 | FEMALE | 0.12 | | 0.011 | | 0.022 | | 0.141 | | |
| 6 | | 11 | | 1 | | 2 | | 13 | | |
| 7 | SURVEY MALE | 37 | | 1 | | 0 | | 7 | | |
| 8 | SURVEY FEMALE | 22 | | 0 | | 0 | | 7 | | |
| 9 | EXPECTED VALUE MALE | 34 | | 0 | | 0 | | 7 | | |
| 10 | EXPECTED VALUE FEMALE | 13 | | 1 | | 2 | | 15 | | |
| 11 | CHI-SQUARED VALUE MALE | 0 | | 1 | | 0 | | 0 | 1 | |
| 12 | CHI-SQUARED VALUE FEMALE | 7 | | 1 | | 2 | | 4 | | 14 |
| 13 | | | | | | | | | | |
| 14 | | ISTP | | ISFP | | INFP | | INTP | | |
| 15 | MALE | 0.162 | | 0.004 | | 0.004 | | 0.091 | | |
| 16 | | 43 | | 1 | | 1 | | 24 | | |
| 17 | FEMALE | 0.13 | | 0.022 | | 0.043 | | 0.109 | | |
| 18 | | 12 | | 2 | | 4 | | 10 | | |
| 19 | SURVEY MALE | 26 | | 0 | | 1 | | 12 | | |
| 20 | SURVEY FEMALE | 14 | | 2 | | 1 | | 12 | | |
| 21 | EXPECTED VALUE MALE | 20 | | 0 | | 0 | | 11 | | |
| 22 | EXPECTED VALUE FEMALE | 14 | | 2 | | 5 | | 12 | | |
| 23 | CHI-SQUARED VALUE MALE | 2 | | 0 | | 1 | | 0 | 3 | |
| 24 | CHI-SQUARED VALUE FEMALE | 0 | | 0 | | 3 | | 0 | | 3 |
| 25 | | | | | | | | | | |
| 26 | | ESTP | | ESFP | | ENFP | | ENTP | | |
| 27 | MALE | 0.158 | | 0.019 | | 0.007 | | 0.057 | | |
| 28 | | 42 | | 5 | | 2 | | 15 | | |
| 29 | FEMALE | 0.098 | | 0.065 | | 0.011 | | 0.13 | | |
| 30 | | 9 | | 6 | | 1 | | 12 | | |
| 31 | SURVEY MALE | 14 | | 1 | | 2 | | 7 | | |
| 32 | SURVEY FEMALE | 8 | | 6 | | 3 | | 8 | | |
| 33 | EXPECTED VALUE MALE | 20 | | 2 | | 1 | | 7 | | |
| 34 | EXPECTED VALUE FEMALE | 10 | | 7 | | 1 | | 14 | | |
| 35 | CHI-SQUARED VALUE MALE | 2 | | 1 | | 1 | | 0 | 4 | |
| 36 | CHI-SQUARED VALUE FEMALE | 1 | | 0 | | 3 | | 3 | | 6 |
| 37 | | | | | | | | | | |
| 38 | | ESTJ | | ESFJ | | ENFJ | | ENTJ | | |
| 39 | MALE | 0.132 | | 0.007 | | 0.00001 | | 0.026 | | |
| 40 | | 35 | | 2 | | 0 | | 7 | | |
| 41 | FEMALE | 0.13 | | 0.033 | | 0.011 | | 0.022 | | |
| 42 | | 12 | | 3 | | 1 | | 2 | | |
| 43 | SURVEY MALE | 13 | | 1 | | 0 | | 2 | | |
| 44 | SURVEY FEMALE | 20 | | 1 | | 0 | | 3 | | |
| 45 | EXPECTED VALUE MALE | 16 | | 1 | | 0 | | 3 | | |
| 46 | EXPECTED VALUE FEMALE | 14 | | 4 | | 1 | | 2 | | |
| 47 | CHI-SQUARED VALUE MALE | 1 | | 0 | | 0 | | 0 | 1 | |
| 48 | CHI-SQUARED VALUE FEMALE | 3 | | 2 | | 1 | | 0 | | 6 |
| 49 | | | | | | | | | | |
| 50 | | | | | | | | | 9.1086 | 23.3375 |
| | | | | | | | | | MALE | FEMALE |

Bibliography

Ballou Jr., Dr. Paul O. "Government Contract Negotiations: A Better Way to Do It." *Contract Management*, 31 4-7, (November 1991).

Campbell, Joseph (editor). *The Portable Jung*. New York: The Viking Press, 1971.

Catlin, Capt Robert M. and Capt Bernard J. Faenza. *Identification of Negotiation Tactics and Strategies of Air Force Contract Negotiators*. MS thesis, LSSR 85S-12. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1985 (AD-A160835).

Cheney, Richard. *Defense Management Report to the President*. Washington: Government Printing Office, July 1989.

Cross, John G. *The Economics of Bargaining*. New York: Basic Books, 1969.

Department of the Air Force. *A Guide for the Development of the Attitude and Opinion Study*. Pentagon, Washington DC: Government Printing Office, October 1974.

Economy, Peter. *Negotiating to Win: A Manager's Handbook*. USA: Scott Foresman Professional Books, 1991.

Fisher, Roger et al. *Getting to Yes* (Second Edition). New York: Penguin Books, 1991.

Fuller, George. *The Negotiator's Handbook*. Englewood Cliffs NJ: Prentice Hall, 1991.

Horton, Captain William R. *Analysis of Negotiation Effectiveness Within Aeronautical Systems Division of Air Force Systems Command*. MS Thesis. AFIT/GLM/LSM/87S-36. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1987 (AD-A188096).

Johnstone, Major Charan M. *Psychological Type and Analysis of Preferred Negotiation Strategies and Tactics of United States Air Force Contract Negotiators*. MS thesis, GLM/LSM 86S-36. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1986 (AD-A174615).

Karrass, Chester L. *Give & Take: The Complete Guide to Negotiating Strategies and Tactics*. New York: Thomas Y. Crowell, Publishers, 1974.

Kroege, Otto and Janet M. Thuesen. *Type Talk*. New York: Delacorte Press, 1988.

Lawrence, Gorden. *People Types and Tiger Stripes*. Gainesville FL: Center for Applications of Psychological Type, Inc., 1982.

Liebhaber, Ralph F. *Primer on Government Negotiations*. WPAFB OH: Air Force Institute of Technology, 1990.

Mavroules, Nicholas. "Creating a Professional Acquisition Workforce," *National Contract Management Journal*, 24: 15-23 (1991).

McClave, James T., and P. George Benson. *Statistics for Business and Economics*, (Fifth Edition). San Francisco CA: Dellen Publishing Company, 1991.

Myers, Isabel Briggs and Peter B. Myers. *Gifts Differing*. Palo Alto CA: Consulting Psychologists Press, Inc., 1980.

Myers, Isabel Briggs and Mary H. McCaulley. *Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator (Second Edition)*. Palo Alto CA: Consulting Psychologists Press, 1985.

National Contract Management Association. *NCMA Member Survey*. Vienna VA: National Contract Management Association, 1988.

Nierenberg, Gerard I. *The Complete Negotiator*. New York: Berkley Publishing Group, 1986.

Peterson, Capt Terry L. *Examination of Negotiation Tactics and Strategies of Air Force Logistics Command Contract Negotiators*. MS thesis, GLM/LSQ 86S-58. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1986 (AD-A175042).

Reck, Ross R. and Brian J. Long. *The Win-Win Negotiator*. New York: Pocket Books, 1987.

Steele, Paul et al. *It's a Deal: A Practical Negotiation Handbook*. New York: McGraw-Hill, 1989.

Woolf, Bob. *Friendly Persuasion: How to Negotiate and Win*. New York: Berkley Books, 1990.

VITAE

Alan J. Meade was born on 22 November 1957 in Washington, Indiana. He graduated from Park Hills High School in Fairborn, Ohio, in 1976. He attended Wright State University in Dayton, Ohio, graduating in December 1980 with a Bachelor of Science degree in Business Management. He started his career with the Federal Government on 8 August 1983 by taking a position as a Bank Examiner with the Federal Deposit Insurance Corporation (FDIC). On 24 February 1985, he accepted an offer from the Wright-Patterson Contracting Center (WPCC) for the position of GS-1102 Contract Negotiator. He negotiated various contracts at the base level until August 1988 when he became a GS-1102 Price/Cost Analyst. As a price/cost analyst, he was responsible for pricing and negotiating multi-million dollar contracts in support of the Big Safari Program Office (Special Operations Forces). He entered the School of Systems and Logistics, Air Force Institute of Technology, in May 1991. He is married to Dorothy Meade of Celina, Ohio. Together they have three daughters, Kelley, Evette, and Mallory.

Permanent Address: 687 Stoneybrook Trail
Fairborn, Ohio 45324

VITAE

Captain John P. Hebert, Jr., was born 14 March 1957 in Kittery, Maine. He enlisted in the United States Air Force in June of 1975, upon graduation from Dover (New Hampshire) High School. His initial duty assignment was to Pease Air Force Base, Newington, New Hampshire as a Security Specialist. In 1979, Captain Hebert was assigned as a Security Supervisor to Aviano Air Base, Italy, where he served until his separation from active service in April of 1982. He graduated with honors from the University of Illinois at Champaign-Urbana, receiving a Bachelor of Science degree in Physical Education in 1985. He was commissioned a Second Lieutenant in the United States Air Force via the Reserve Officer Training Corps (ROTC), and reported for duty to Wright-Patterson Air Force Base, Ohio. His assignments at Wright-Patterson included Chief, Air Force Wright Aeronautical Laboratories (AFWAL) Reserve Program, Special Assistant to the Aeronautical Systems Division Chief of Staff, Executive Officer, Contract Negotiator, Procurement Analyst, and Chief of Data Systems for the Wright-Patterson Contracting Center. Captain Hebert is a distinguished graduate of Squadron Officer School, and also a graduate of the Air Force Institute of Technology Education With Industry (EWI) program. He is married to Air Force Major (select) Jane Hebert of Dover, New Hampshire, and they have one son, John III.

Permanent Address: 6 Page Avenue
Dover, New Hampshire 03820

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

| | | | | |
|---|---|--|---|--|
| 1. AGENCY USE ONLY (Leave blank) | | 2. REPORT DATE September 1992 | 3. REPORT TYPE AND DATES COVERED Master's Thesis | |
| 4. TITLE AND SUBTITLE EXAMINATION OF PSYCHOLOGICAL TYPE AND PREFERRED NEGOTIATION TACTICS AND STRATEGIES OF CONTRACT NEGOTIATORS | | | 5. FUNDING NUMBERS | |
| 6. AUTHOR(S) John P. Hebert, Captain, USAF Alan J. Meade, GS-12 | | | | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Air Force Institute of Technology, WPAFB, OH 45433-6583 | | | 8. PERFORMING ORGANIZATION REPORT NUMBER AFIT/GCM/LSM/92S-5 | |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) | | | 10. SPONSORING/MONITORING AGENCY REPORT NUMBER | |
| 11. SUPPLEMENTARY NOTES | | | | |
| 12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited | | | 12b. DISTRIBUTION CODE | |
| 13. ABSTRACT (Maximum 200 words) This research identified the psychological types of government and industry contract negotiators and determined whether their preference for using negotiation tactics and strategies were correlated with their respective psychological types. A survey consisting of the Myers-Briggs Type Indicator (MBTI) and a questionnaire concerning use of negotiation tactics and strategies was mailed to 2,000 contracting professionals of the National Contract Management Association (NCMA). During May and June 1992, 627 usable surveys were received. The MBTI results were paired with the responses to the negotiation tactics and strategies questionnaire. These results were analyzed on a microcomputer using the DBase IV, Excel, and Statistix software packages to calculate mean, standard deviation, chi-square, and comparisons of means with test of hypothesis (z-test). Analysis of the data concludes that industry negotiators use tactics and strategies more frequently than government negotiators. Statistically significant differences were noted between industry and government negotiators on 20 out of 33 tactics and five out of eleven strategies. Statistically significant differences were noted between personality functional types. | | | | |
| 14. SUBJECT TERMS Negotiation, bargaining, personality, personality type, psychological type, psychology | | | 15. NUMBER OF PAGES 174 | |
| | | | 16. PRICE CODE | |
| 17. SECURITY CLASSIFICATION OF REPORT Unclassified | 18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified | 19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified | 20. LIMITATION OF ABSTRACT UL | |

AFTT RESEARCH ASSESSMENT

The purpose of this questionnaire is to determine the potential for current and future applications of AFTT thesis research. Please return completed questionnaires to: AFTT/LSC, Wright-Patterson AFB OH 45433-9905.

1. Did this research contribute to a current research project?

a. Yes

b. No

2. Do you believe this research topic is significant enough that it would have been researched (or contracted) by your organization or another agency if AFTT had not researched it?

a. Yes

b. No

3. The benefits of AFTT research can often be expressed by the equivalent value that your agency received by virtue of AFTT performing the research. Please estimate what this research would have cost in terms of manpower and/or dollars if it had been accomplished under contract or if it had been done in-house.

Man Years _____ \$ _____

4. Often it is not possible to attach equivalent dollar values to research, although the results of the research may, in fact, be important. Whether or not you were able to establish an equivalent value for this research (3. above) what is your estimate of its significance?

a. Highly
Significant

b. Significant

c. Slightly
Significant

d. Of No
Significance

5. Comments

Name and Grade

Organization

Position or Title

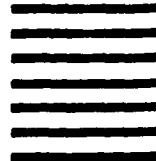
Address

(Fold down on outside — seal with tape)

DEPARTMENT OF THE AIR FORCE
AFT/ LSC
WRIGHT-PATTERSON AFB OH 45433-4563
OFFICIAL BUSINESS



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO 1006 DAYTON OH

POSTAGE WILL BE PAID BY THE ADDRESSEE

WRIGHT-PATTERSON AIR FORCE BASE

AFT/ LSC
WRIGHT-PATTERSON AIR FORCE BASE
DAYTON OH 45433-9905



FOLD IN